=> FILE REG
FILE 'REGISTRY' ENTERED AT 11:03:54 ON 07 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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STRUCTURE FILE UPDATES: 5 MAR 2002 HIGHEST RN 398451-41-7
DICTIONARY FILE UPDATES: 5 MAR 2002 HIGHEST RN 398451-41-7

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the H/Z/CA/CAplus files between 12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches during this period, either directly appended to a CAS Registry Number or by qualifying an L-number with /P, may have yielded incomplete results. As of 1/23/02, the situation has been resolved. Also, note that searches conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator between 12/27/01 and 1/23/02, are encouraged to re-run these strategies. Contact the CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698, worldwide, or send an e-mail to help@cas.org for further assistance or to receive a credit for any duplicate searches.

<------User Break------>
u
=>
=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 11:05:39 ON 07 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 7 Mar 2002 VOL 136 ISS 10
FILE LAST UPDATED: 5 Mar 2002 (20020305/ED)

This file contains CAS Registry Numbers for easy and accurate

substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> D QUE L53

| | | |
|---|---|---|
| L20 | 10 | SEA FILE=REGISTRY ABB=ON (104-15-4/BI OR 107-15-3/BI OR 108-31-6/BI OR 123-31-9/BI OR 50-70-4/BI OR 57675-44-2/BI OR 6303-21-5/BI OR 7647-01-0/BI OR 7664-38-2/BI OR 7664-93-9/BI) |
| L21 | 1 | SEA FILE=REGISTRY ABB=ON L20 AND 60/C = Trimethylol propane trioleate |
| L22 | 1 | SEA FILE=REGISTRY ABB=ON SORBIC ACID/CN |
| L23 | 173 | SEA FILE=REGISTRY ABB=ON SORBATE |
| L24 | 130 | SEA FILE=REGISTRY ABB=ON L23 NOT PMS/CI |
| L25 | 1 | SEA FILE=REGISTRY ABB=ON SORBIC ANHYDRIDE/CN |
| L26 | 2 | SEA FILE=REGISTRY ABB=ON "TETRAHYDROPHTHALIC ANHYDRIDE"/CN |
| L27 | 1 | SEA FILE=REGISTRY ABB=ON "TETRAHYDROPHTHALIC ACID"/CN |
| L28 | 1 | SEA FILE=REGISTRY ABB=ON SALICYLIC ACID/CN |
| L29 | 1 | SEA FILE=REGISTRY ABB=ON SALICYLIC ANHYDRIDE/CN |
| L30 | 1 | SEA FILE=REGISTRY ABB=ON ACRYLIC ACID/CN |
| L31 | 1 | SEA FILE=REGISTRY ABB=ON ACRYLIC ANHYDRIDE/CN |
| L32 | 2 | SEA FILE=REGISTRY ABB=ON SORBITOL/CN OR HYDROQUINONE/CN |
| L33 | 130 | SEA FILE=HCAPLUS ABB=ON L21 |
| L34 | 460539 | SEA FILE=HCAPLUS ABB=ON L22 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR ?SORBIC? OR ?SORBATE? OR TETRAHYDRO PHTHALIC? OR SLICYLIC? OR SLICYLAT? OR ?ACRYLIC? OR ?ACRYLAT? |
| L35 | 511200 | SEA FILE=HCAPLUS ABB=ON L34 OR ?SALICYLIC? OR ?SALICYLAT? |
| L36 | 12 | SEA FILE=HCAPLUS ABB=ON L33 AND L35 |
| L37 | 77310 | SEA FILE=HCAPLUS ABB=ON L32 OR ?SORBITOL? OR ?HYDROQUINON? |
| L38 | 0 | SEA FILE=HCAPLUS ABB=ON L36 AND L37 |
| L39 | 0 | SEA FILE=HCAPLUS ABB=ON L36 AND POLYHYDROX? |
| L40 | 2 | SEA FILE=HCAPLUS ABB=ON L36 AND ?HYDROXY? |
| L41 | 7 | SEA FILE=HCAPLUS ABB=ON L36 AND FUEL#/SC,SX |
| L42 | 31727 | SEA FILE=HCAPLUS ABB=ON L35 AND OIL# |
| L43 | 1258 | SEA FILE=HCAPLUS ABB=ON L42 AND L37 |
| L44 | 14 | SEA FILE=HCAPLUS ABB=ON L43 AND ?WEAR? |
| L45 | 2 | SEA FILE=HCAPLUS ABB=ON L44 AND FUEL#/SC,SX |
| L46 | 45 | SEA FILE=HCAPLUS ABB=ON L43 AND FUEL#/SC,SX |
| L47 | 25 | SEA FILE=HCAPLUS ABB=ON L46 AND OIL#(L)ADDITIVE? |
| L48 | 17 | SEA FILE=HCAPLUS ABB=ON L47 AND LUBRICA? |
| L49 | 82 | SEA FILE=HCAPLUS ABB=ON L33 AND FUEL#/SC,SX |
| L50 | 2 | SEA FILE=HCAPLUS ABB=ON L49 AND L37 |
| L51 | 12 | SEA FILE=HCAPLUS ABB=ON L49 AND ?WEAR? |
| L52 | 33 | SEA FILE=HCAPLUS ABB=ON L49 AND LUBRIC?(L)ADDITIV? |
| L53 | 56 | SEA FILE=HCAPLUS ABB=ON (L38 OR L39 OR L40 OR L41) OR L45 OR L48 OR L50 OR L51 OR L52 |

=> D ALL L53 1-56 HITSTR

L53 ANSWER 1 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:545818 HCAPLUS

DN 135:139598
TI Synthetic lubricants and hydraulic fluids prepared by electrophilic addition of carboxylic acids to unsaturated fatty acids or esters
IN Hoelderich, Wolfgang; Keller, Ulrich; Fischer, Jutta; Weckes, Patrick; Mang, Theo; Luther, Rolf; Wagner, Helena
PA Fuchs Petrolub A.-G., Germany
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM C10M129-68
ICS C10M105-32; C07C067-04
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 23, 45
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001053438 | A1 | 20010726 | WO 2001-EP594 | 20010119 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | DE 10002516 | A1 | 20010726 | DE 2000-10002516 | 20000121 |
| | DE 10014922 | A1 | 20011031 | DE 2000-10014922 | 20000324 |
| PRAI | DE 2000-10002515 | A | 20000121 | | |
| | DE 2000-10002516 | A | 20000121 | | |
| | DE 2000-10014922 | A | 20000324 | | |

OS MARPAT 135:139598
AB Synthetic **lubricants** and pressure-transmitting compns. for functional fluids and **lubricating** oil **additives** are the reaction products of electrophilic addn. of linear or branched aliph. or arom. carboxylic acids, carboxylic acid anhydrides, acyl halides, or neocarboxylic acids to the double bonds of unsatd. fatty acids or fatty acid derivs. The unsatd. fatty acids or esters suitable for reaction include oleic acid, linoleic acid, linolenic acid, palmitoleic acid, eicosenoic acid, erucic acid (or their Me esters), glycerin trioleate, pentaerythritol tetraoleate, or mixts. of rapeseed oil, sunflower oil, palm oil, coconut oil, or olive oil. The addn. reaction is carried out over acid catalysts, such as zeolites, solid phosphoric acid, metal phosphates, acidic oxides (e.g., B2O3 GeO2), org. ion-exchange resins (e.g., Amberlyst of Nafion), and homogeneous acid catalysts (H2SO4, H3BO3, HNO3, HCl, AlCl3, and other halogen acids and Lewis acids). The synthetic esters can be used in novel environmentally friendly **lubricants**, pressure-transmitting systems, functional liqs., and **lubricant additives**, and are characterized by increased oxidn. resistance and low toxicity.
ST acyloxylation electrophilic unsatd fatty ester lubricant; electrophilic addn carboxylic acid unsatd fatty acid; lubricating oil electrophilic acyloxylation unsatd fatty acid; pressure transmission fluid electrophilic acyloxylation unsatd fatty acid; hydraulic fluid pressure transmission electrophilic addn
IT Y zeolites
RL: CAT (Catalyst use); USES (Uses)
(addn. reaction catalysts; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty

acids or esters)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(branched, reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Addition reaction catalysts
(electrophilic, acidic; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Addition reaction
(electrophilic; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(neo-, reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Hydraulic fluids
(pressure-transmitting; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Coconut oil
Olive oil
Palm oil
Rape oil
Sunflower oil
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Acid halides
Anhydrides
Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT **Lubricating** oil **additives**
(synthetic **lubricants** and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Lubricating oils
(synthetic; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Glycerides, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(unsatd. fatty acid-contg., reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)

(unsatd., esters, reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(unsatd., reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT 9003-70-7D, Styrene-divinylbenzene copolymer, sulfonated 9037-24-5, amberlyst 15
RL: CAT (Catalyst use); USES (Uses)
(addn. reaction catalyst; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT 75-75-2, Methylsulfonic acid 1303-86-2, Boron oxide (B2O3), uses 1309-37-1, Ferric oxide, uses 1310-53-8, Germanium dioxide, uses 1314-23-4, Zirconium dioxide, uses 1344-28-1, Alumina, uses 7446-28-8, Strontium phosphate 7446-70-0, Aluminum trichloride, uses 7631-86-9, Silica, uses 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-39-3, Hydrofluoric acid, uses 7664-93-9, Sulfuric acid, uses 7697-37-2, Nitric acid, uses 7705-08-0, Ferric chloride, uses 7727-15-3, Aluminum tribromide 7772-99-8, Tin dichloride, uses 7784-30-7, Aluminum phosphate 10031-26-2, Ferric bromide 10043-35-3, Boric acid (H3BO3), uses 10402-24-1, Iron phosphate 13308-51-5, Boron phosphate 13765-95-2, Zirconium phosphate 13765-96-3 16872-11-0, Hydrogen tetrafluoroborate 18282-10-5, Tin dioxide 19114-77-3 220618-25-7, Nafion SAC 13
RL: CAT (Catalyst use); USES (Uses)
(addn. reaction catalysts; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT 123904-68-7D, reaction products with carboxylic acids
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

IT 36881-14-8, Propanoic acid, 2,2-dimethyl-3-(phenylmethoxy)- 91367-77-0, Propanoic acid, 2,2-dimethyl-3-(2-methylpropoxy)- 321992-68-1, Propanoic acid, 3-(2-ethylbutoxy)-2,2-dimethyl- 321992-69-2, Propanoic acid, 2,2-dimethyl-3-[(2-methylphenyl)methoxy]-
RL: PRP (Properties); RCT (Reactant)
(spectral characterization and reaction of)

IT 60-33-3D, Linoleic acid, reaction products with carboxylic acids 64-18-6D, Formic acid, addn. products with Me oleate 75-98-9D, Pivalic acid, addn. products with Me oleate 112-62-9D, Methyl oleate, addn. products with formic acid or pivalic acid 112-63-0D, Linoleic acid methyl ester, reaction products with carboxylic acids 112-80-1D, Oleic acid, reaction products with carboxylic acids 112-86-7D, Erucic acid, reaction products with carboxylic acids 122-32-7D, Glycerin trioleate, reaction products with carboxylic acids 301-00-8D, Linolenic acid methyl ester, reaction products with carboxylic acids 373-49-9D, Palmitoleic acid, reaction products with carboxylic acids 463-40-1D, Linolenic acid, reaction products with carboxylic acids 537-40-6D, Glycerin trilinoleate, reaction products with carboxylic acids 1120-25-8D, Palmitoleic acid methyl ester, reaction products with carboxylic acids 14465-68-0D, Glycerol trilinolenate, reaction products with carboxylic acids 17860-02-5D, Propanoic acid, 2-methyl-2-propoxy-, reaction products with unsatd. fatty acids and esters 28933-89-3D, Eicosenoic

acid, reaction products with carboxylic acids 36881-14-8D, Propanoic acid, 2,2-dimethyl-3-(phenylmethoxy)-, reaction products with unsatd. fatty acids and esters 39874-62-9D, Pentaerythritol trioleate, reaction products with carboxylic acids 56525-88-3D, reaction products with carboxylic acids 56525-89-4D, reaction products with carboxylic acids **57675-44-2D**, Trimethylolpropane trioleate, reaction products with carboxylic acids 58552-97-9D, reaction products with carboxylic acids 91367-77-0D, Propanoic acid, 2,2-dimethyl-3-(2-methylpropoxy)-, reaction products with unsatd. fatty acids and esters 125181-32-0D, Propanoic acid, 3-butoxy-2,2-dimethyl-, reaction products with unsatd. fatty acids and esters 321992-68-1D, Propanoic acid, 3-(2-ethylbutoxy)-2,2-dimethyl-, reaction products with unsatd. fatty acids and esters 321992-69-2D, Propanoic acid, 2,2-dimethyl-3-[(2-methylphenyl)methoxy]-, reaction products with unsatd. fatty acids and esters 351436-95-8 351436-96-9
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Black, L; J Amer Oil Chem Soc 1967, V44(5), P310 HCAPLUS
(2) Hoelderich, W; US 4709097 A 1987 HCAPLUS
(3) Mantell, G; US 3676500 A 1972 HCAPLUS
(4) Mikeska; US 2115341 A 1938 HCAPLUS
(5) New Japan Chem Co Ltd; JP 09241210 A 1997 HCAPLUS
(6) Tulloch, A; Org Magn Reson 1978, V11(3), P109 HCAPLUS

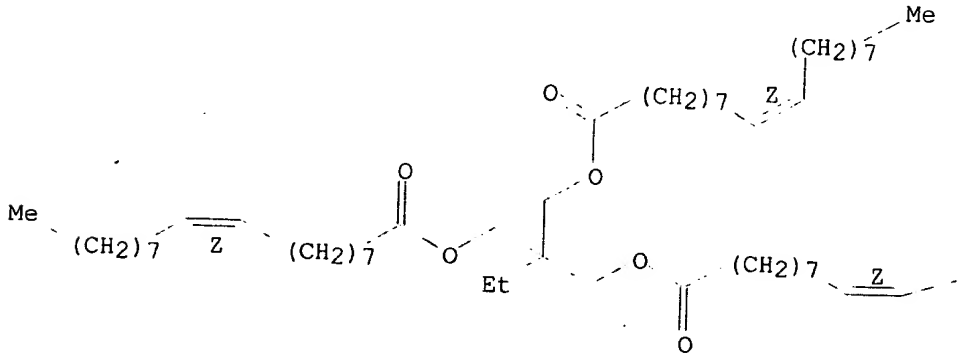
IT **57675-44-2D**, Trimethylolpropane trioleate, reaction products with carboxylic acids
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

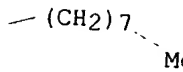
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



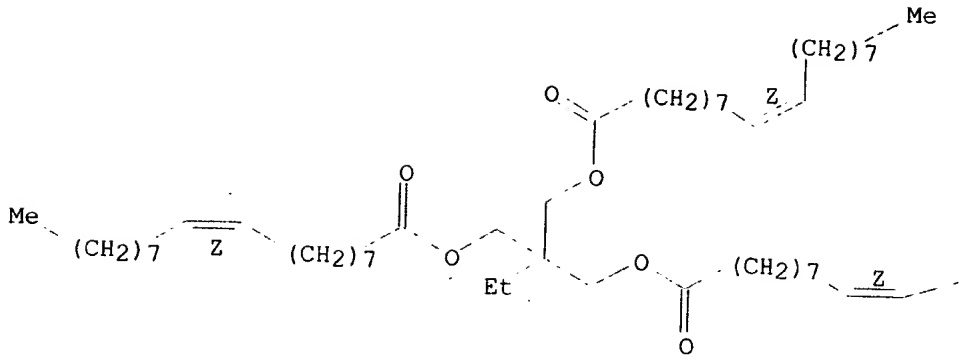


L53 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:419341 HCAPLUS
DN 135:213134
TI A study of the effect of chemical structure on friction and **wear** : Part 2 - Vegetable oils and esters
AU Weller, David E., Jr.; Perez, Joseph M.
CS Chemical Engineering Department, The Pennsylvania State University, University Park, PA, 16802, USA
SO Lubr. Eng. (2001), 57(5), 20-26
CODEN: LUENAG; ISSN: 0024-7154
PB Society of Tribologists and Lubrication Engineers
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 45
AB The effects of chem. structure on the friction and **wear** characteristics of base **lubricating** oils in a four-ball **wear** tester was examd. for three vegetable oils (e.g., jojoba oil, corn oil, and castor oil) and two synthetic esters (e.g., pentaerythritol tetraoleate and trimethylolpropane trioleate). Monoesters (i.e., pure substances) showed the best **wear** behavior for the base fluids, which the addn. of **additives** did not improve. A statistical regression anal. showed a high correlation between chem. structure effects and **wear** and friction results. Polyunsatn. of the vegetable oils lead to an unexpected higher **wear** and friction with **additives**. Hydroxyl group branching of the castor oil did not affect interaction with **additives**. Finally, **wear** behavior were affected by chain branching and chain length of the acid group of the ester.
ST lubricating base oil antifriction **antiwear** chem structure; vegetable oil chem structure lubricating base oil; ester chem structure lubricating base oil; pentaerythritol oleate lubricant antifriction **antiwear**; trimethylolpropane oleate lubricant antifriction **antiwear**
IT **Lubricating** oil **additives**
(antifriction-**antiwear**; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil **lubricating** base oils)
IT Castor oil
Corn oil
Jojoba oil
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and **antiwear**

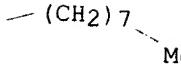
behavior of synthetic ester and vegetable oil lubricating base oils)
IT Lubricating oils
(base oils, synthetic; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
IT Molecular structure-property relationship
(of fatty acids and vegetable oils; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
IT Hydrocarbons, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(sulfurized, **lubricant additive**; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil **lubricating** base oils)
IT Fats and Glyceridic oils, properties
RL: PRP (Properties)
(vegetable; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
IT 19321-40-5, Pentaerythritol tetraoleate **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
IT 594-07-0D, Dithiocarbamic acid, derivs. 1330-78-5, Tricresyl phosphate 7664-38-2D, Phosphoric acid, amine salts 15834-33-0D, Phosphorodithioic acid, derivs.
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**lubricant additives**; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil **lubricating** base oils)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) ASTM; 1995, ASTM D5864
(2) ASTM; Standard Test Method for Wear Preventive Characteristics of Lubricating Fluid 1994, ASTM D4 172
(3) Anon; CRC Handbook of Lubrication 1994, V111
(4) Asadauskas, S; ACS Symposia Preprints 1997, V42(1), P246 HCAPLUS
(5) Asadauskas, S; Lubr Eng 1996, V52(12), P877 HCAPLUS
(6) Asadauskas, S; Lubr Eng 1997, V53(12), P35 HCAPLUS
(7) Battersby, N; Chemosphere 1992, V24(12), P1989 HCAPLUS
(8) Bisht, R; Jour of Scientific and Industrial Research 1989, V48, P174
(9) Bisht, R; Wear 1993, V161, P193 HCAPLUS
(10) Eichenberger, H; Society of Automotive Engineers Paper No 910962 1991
(11) Gapinski, R; Society of Automotive Engineers Paper No 941758 1994
(12) Novick, N; Jour of Synthetic Lubr 1996, V13(1), P19 HCAPLUS
(13) Padavich, R; Society of Automotive Engineers Paper No 952077 1995
(14) Van der Waal, G; Jour of Synthetic Lubr 1993, V10(1), P67 HCAPLUS
(15) Voltz, M; Jour of Synthetic Lubr 1995, V12(3), P215
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:61525 HCAPLUS
DN 134:118228
TI Oil-in-water emulsions as coolant metalworking cutting oils containing dispersed elemental sulfur
IN Lange, Ilona; Geke, Juergen; Foell, Juergen; Rossmaier, Henry
PA Henkel KGaA, Germany
SO Ger. Offen., 14 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C10M125-22
ICS C10M173-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 19934170 | A1 | 20010125 | DE 1999-19934170 | 19990721 |
| | WO 2001007545 | A1 | 20010201 | WO 2000-EP6650 | 20000712 |

W: AU, BG, BR, BY, CA, CN, CZ, HU, ID, IN, JP, KR, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, UA, US, UZ, VN, YU, ZA
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI DE 1999-19934170 A 19990721

AB Cooling lubricants for cutting metalworking are oil-in-water emulsions contg. 0.01-0.5 wt.% of elemental sulfur with an av. particle size of 10-1500 nm, preferably 25-800 nm. The base oils are selected from paraffinic and naphthenic oils, polyolefins, ester oils, acetal oils, or dialkyl ether oils. Addnl. components can also be present include emulsifiers, corrosion inhibitors, and/or biocides. A suitable compn., as a lubricant conc., is base oil 10-70, emulsifiers 7-50, corrosion inhibitors 7-40, and elemental sulfur 0.1-5 wt.%.

ST coolant lubricant cutting metalworking emulsion; sulfur metalworking lubricating emulsion

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C16-18, ethoxylated, additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Esters, uses
Naphthenic oils
Paraffin oils
Polyolefins
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **Lubricating** oil **additives**
(biocides, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **Lubricating** oil **additives**
(corrosion inhibitors, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **Lubricating** oil **additives**
(cutting oil **additives**; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Lubricating oils
(cutting oils, emulsion; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di(dodecyl), **lubricant additives**; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **Lubricating** oil **additives**
(emulsifiers, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(esters, C8-12, ethylhexyl esters, **lubricant additives**; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, dialkyl ethers, base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **Lubricating** oil **additives**
(extreme-pressure, metalworking, elemental sulfur; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol, dialkyl ethers, base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Biocides

(**lubricating** oil **additives**, metalworking;
oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Lubricating oils
(metalworking, coolants; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Lubricating oils
(metalworking, synthetic; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT Acetals
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT 124-07-2, Caprylic acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(additive; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT 112-34-5, Diethylene glycol monobutyl ether 143-28-2, Oleyl alcohol 9004-95-9, Ethoxylated cetyl alcohol 9004-98-2 36653-82-4, Cetyl alcohol
RL: MOA (Modifier or additive use); USES (Uses)
(additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

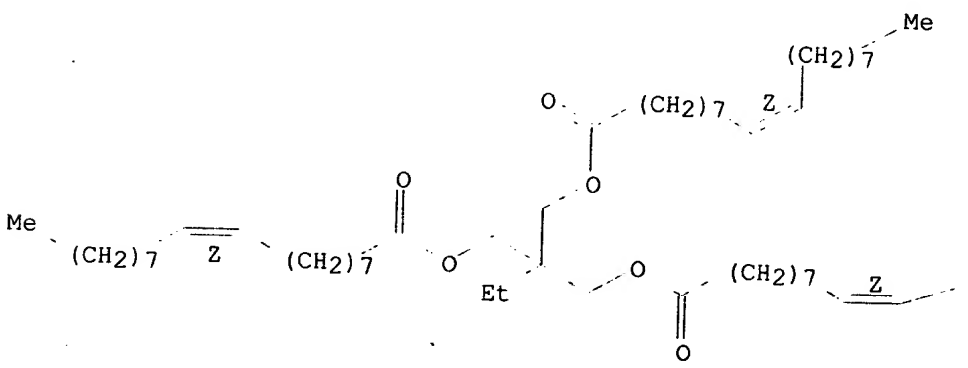
IT 56-81-5, Glycerin, uses 141-43-5, Monoethanolamine, uses 1310-58-3, Potassium hydroxide, uses 10043-35-3, Boric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**lubricant additive**; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

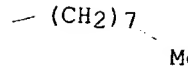
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)

RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:659714 HCAPLUS
DN 133:240490
TI Water-soluble metalworking oils and their additives
IN Sasaki, Setsuo; Ueda, Atsuya; Takeda, Kazuyoshi
PA Kyodo Yushi K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M173-02
ICS C10M173-02; C10M105-38; C10N030-06; C10N040-22
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2000256695 | A2 | 20000919 | JP 1999-58838 | 19990305 |

AB Water-sol. cutting oils or rolling oils for processing of metal parts comprise (A) the polycondensation reaction products of hydroxy fatty acid and/or its polycondensates 2.5-50, (B) ethylene oxide adducts with polycondensates of C10-44 hydroxy fatty acid (esp., hydroxyoctadecanoic acid or hydroxyoctadecenoic acid) or castor oil-alkylene oxide adducts 2-30, (C) polyol esters such as ethylene glycol diesters, polyethylene glycol diesters or triethanolamine triesters 5-50, and (D) dibasic C10-44 fatty acid esters 2-20 wt.%. The cutting oils or rolling oils show high durability and good performance in various atm.
ST metalworking oil additive hydroxy fatty acid polycondensate
IT **Lubricating** oil **additives**
(antifriction, aq. emulsion; water-sol. metalworking oils and their **additives**)
IT **Lubricating** oil **additives**
(**antiwear**, aq. emulsion; water-sol. metalworking oils and their **additives**)
IT Castor oil
RL: MOA (Modifier or additive use); USES (Uses)
(exthoxylated; water-sol. metalworking oils and their additives)
IT **Lubricating** oil **additives**
(extreme-pressure, aq. emulsion; water-sol. metalworking oils and their **additives**)
IT Lubricating oils
(metalworking; water-sol., contg. hydroxy fatty acid polycondensates

and polyol esters and ethoxylated castor oil)

IT **Lubricating** oil **additives**
(multifunctional, aq. emulsion; water-sol. metalworking oils and their **additives**)

IT 106-14-9, 12-Hydroxyoctadecanoic acid
RL: MOA (Modifier or additive use); USES (Uses)
(dimer or tetramer polycondensates; water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)

IT 53980-88-4D, DA 1550, polycondensation reaction products of hydroxy fatty acid 141087-22-1 245355-60-6 245355-61-7 245355-62-8 245355-63-9 245355-64-0 245355-66-2 245355-68-4 245355-70-8 245355-71-9
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. metalworking oils and their additives)

IT 25592-38-5, Triethylene glycol dilaurate **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)

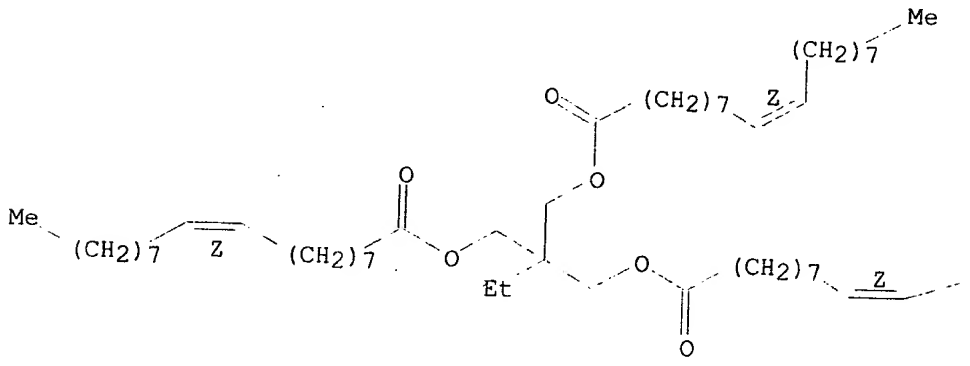
IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)

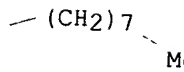
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:544888 HCAPLUS
DN 133:153021
TI Cold-rolling lubricating oil composition
IN Oikawa, Isao; Namiki, Minoru; Moriuchi, Tsutomu; Matsuoka, Toru; Susumu, Osamu; Hirohata, Kazuhiro
PA Kyodo Yushi K. K., Japan; Kawasaki Steel Corp.
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICS C10M169-04; C10M101-04; C10M105-32; C10M137-04; C10M135-20; C10N030-06; C10N030-12; C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2000219890 | A2 | 20000808 | JP 1999-24922 | 19990202 |

AB The title compn. comprises (a) .gtoreq.1 natural oils and fat or synthetic esters as base oils kinematic viscosity 10-100 mm2/s at 40.degree. and sapon. value .gtoreq.150 mg KOH/g, (b) phosphatides, esp. soybean lecithin or egg-yolk lecithin, (c) phosphite esters and (d) inactive sulfided oil and fat (contg. S .ltoreq.5 wt.%) or polysulfides. The title compn. is superior in lubricity during high-speed rolling, durable and able to prevent depositing between the metal efficiently in the metal contact zone.
ST cold rolling **lubricating** oil compn phosphatide polysulfide; soybean lecithin phosphatide rolling oil **additive**
IT **Lubricating** oil **additives**
(**antiwear**; cold-rolling **lubricating** oil compn.)
IT Glycerophospholipids
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(cold-rolling lubricating oil compn.)
IT **Lubricating** oil **additives**
(dispersants; cold-rolling **lubricating** oil compn.)
IT **Lubricating** oil **additives**
(extreme-pressure, sulfided oil and fat; cold-rolling **lubricating** oil compn.)
IT Lecithins
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(soybean or egg-yolk; cold-rolling lubricating oil compn.)

IT Lard
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(sulfideed; cold-rolling lubricating oil compn.)

IT 3037-89-6, Distearyl phosphate 7057-92-3, Dilauryl phosphate 29806-73-3, 2-Ethylhexyl palmitate **57675-44-2**, Trimethylol propane trioleate
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(base oil; cold-rolling lubricating oil compn.)

IT 2469-45-6 2690-08-6
RL: MOA (Modifier or additive use); USES (Uses)
(poly-; cold-rolling lubricating oil compn.)

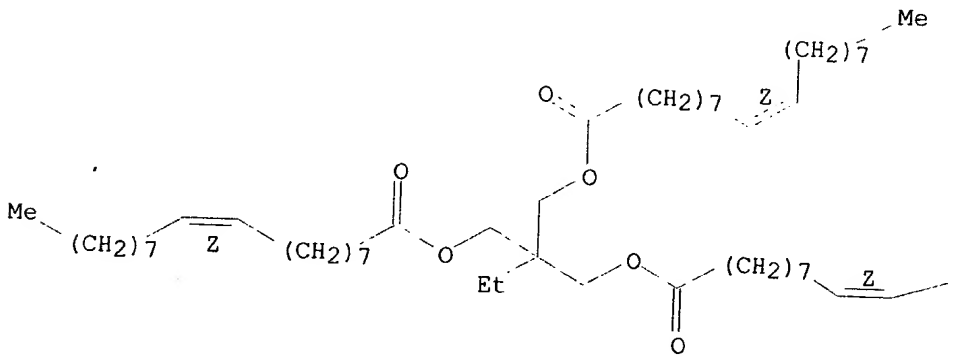
IT **57675-44-2**, Trimethylol propane trioleate
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(base oil; cold-rolling lubricating oil compn.)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B

(CH2)7

Me

L53 ANSWER 6 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:493633 HCAPLUS
DN 133:122631
TI Non-phosphorous, non-metallic anti-**wear** compound and friction modifier
IN Williamson, Will F.; Rhodes, Blaine
PA International Lubricants, Inc., USA
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C10M105-42
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2000042134 | A1 | 20000720 | WO 2000-US2248 | 20000119 |
| | W: AU, BR, CA, IL, JP, MX, NO, NZ | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 1163316 | A1 | 20011219 | EP 2000-905819 | 20000119 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| PRAI | US 1999-234019 | A | 19990119 | | |
| | US 1999-299068 | A | 19990423 | | |
| | WO 2000-US2248 | W | 20000119 | | |

AB There is disclosed a friction reducing compd., comprising an intermediate adduct of a first moiety reacted in a first reaction with a second moiety to form the intermediate adduct and further esterifying or amidifying the intermediate adduct with a third moiety in a molar ratio of from .apprx.1:2 to .apprx.2:1, wherein the first moiety is an unsatd. synthetic dienophilic base oil, wherein the second moiety is a compd. having a diene conjugated carbon-carbon double bond and a carboxylic acid moiety or anhydride group, wherein the first reaction comprises mixing the first moiety with the second moiety in a molar ratio of from .apprx.1:2 to .apprx.2:1 under an inert atm.; and wherein the third moiety is a polyhydroxy compd.

ST lubricating oil friction modifier

IT **Lubricating** oil **additives**
(antifriction; non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)

IT **Lubricating** oil **additives**
(**antiwear**; non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)

IT Lubricating oils
(crankcase; non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)

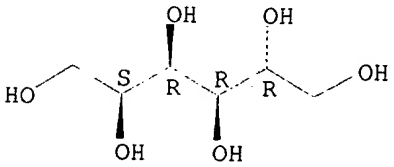
IT Esterification catalysts
(non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)

IT Clays, uses
Zeolites (synthetic), uses
RL: CAT (Catalyst use); USES (Uses)
(non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)

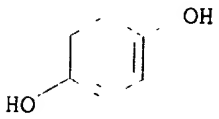
IT 104-15-4, p-Toluene Sulfonic acid, uses 6303-21-5, Hypophosphorous acid 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses
RL: CAT (Catalyst use); USES (Uses)
(non-phosphorous, non-metallic anti-**wear** compd. and friction

modifier)
IT **50-70-4, Sorbitol**, reactions 107-15-3, Ethylenediamine, reactions 108-31-6, Maleic anhydride, reactions **123-31-9, Hydroquinone**, reactions **57675-44-2**, Trimethylolpropane trioleate
RL: RCT (Reactant)
(non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Baillargeon; US 5284493 A 1994 HCAPLUS
(2) Funahashi; US 4696869 A 1987
(3) Hayashi; US 4486573 A 1984 HCAPLUS
(4) Hayashi; US 4489194 A 1984 HCAPLUS
(5) Hayashi; US 4509955 A 1985 HCAPLUS
(6) Katabe; US 4144178 A 1979 HCAPLUS
(7) Lesuer; US 32174 A 1986 HCAPLUS
(8) Lindemann; US 3322703 A 1967 HCAPLUS
(9) Morrison; US 5378249 A 1995 HCAPLUS
(10) Urushibata; US 5304316 A 1994 HCAPLUS
(11) Zehler; US 4601840 A 1986 HCAPLUS
IT **50-70-4, Sorbitol**, reactions **123-31-9, Hydroquinone**, reactions **57675-44-2**, Trimethylolpropane trioleate
RL: RCT (Reactant)
(non-phosphorous, non-metallic anti-**wear** compd. and friction modifier)
RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



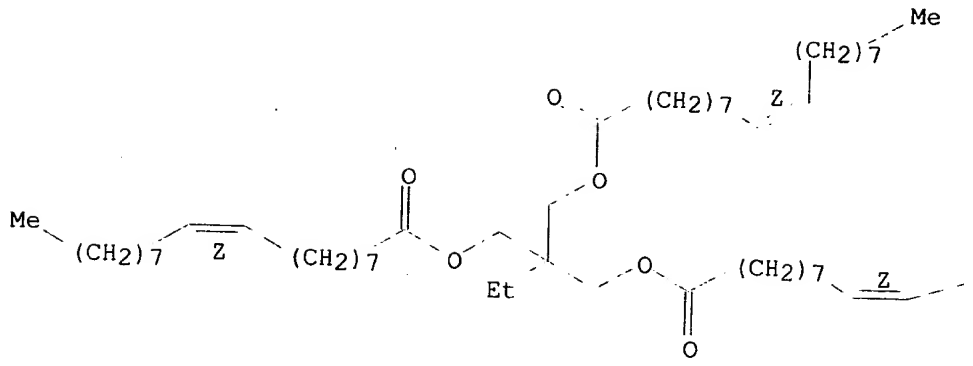

RN 123-31-9 HCAPLUS
CN 1,4-Benzenediol (9CI) (CA INDEX NAME)



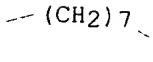

RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:733025 HCAPLUS
DN 131:353542
TI Telomerized complex ester triglycerides
IN O'Lenick, Anthony J., Jr.
PA Lambent Technologies Inc, USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10M129-68
ICS C10M129-74
NCL 508485000
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5985806 | A | 19991116 | US 1999-233224 | 19990119 |

OS MARPAT 131:353542
AB The present invention discloses a group of **lubricant additives** that have improved oxidative stability, high viscosity and relatively lower cost and that comprise the reaction product of a complex oleate ester telomerized with vegetable oils contg. at least one

linoleyl moiety of the three groups in the triglyceride. The resulting product is a high mol. wt. liq. telomerized complex ester triglyceride having a plurality of branch groups. These groups render the compds. outstanding, highly oxidatively stable **lubricants**.

ST telomerized complex ester triglyceride lubricant

IT Lubricants
**Lubricating** oil **additives**
Telomerization
(telomerized complex ester triglycerides for **lubricant** compns.)

IT Corn oil
Cottonseed oil
Safflower oil
Soybean oil
Sunflower oil
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT Fats and Glyceridic oils, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(walnut, telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT Fats and Glyceridic oils, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(wheat germ, telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT 19321-40-5DP, Pentaerythritol tetraoleate, telomerized with vegetable oils
42222-50-4DP, Neopentylglycol dioleate, telomerized with vegetable oils
**57675-44-2DP**, Trimethylolpropane trioleate, telomerized with vegetable oils
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(telomerized complex ester triglycerides for lubricant compns.)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Alexander; US 5731450 1998 HCAPLUS
(2) Anon; GB 2063909 1981 HCAPLUS
(3) D'Alelio; US 3455802 1969 HCAPLUS
(4) Landis; US 5229023 1993 HCAPLUS
(5) Rondenberg; US 5783528 1998 HCAPLUS
(6) Teeter; US 2483791 1949 HCAPLUS
(7) Wynstra; US 3449467 1969 HCAPLUS

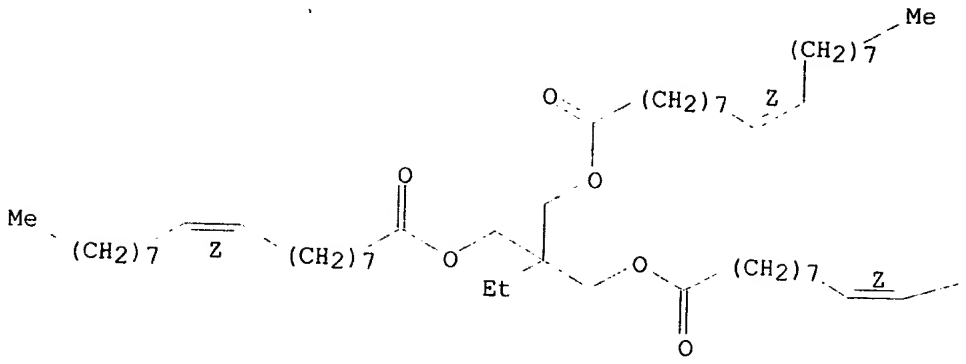
IT **57675-44-2DP**, Trimethylolpropane trioleate, telomerized with vegetable oils
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(telomerized complex ester triglycerides for lubricant compns.)

RN 57675-44-2 HCAPLUS

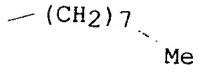
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:219964 HCAPLUS
DN 130:227515
TI Hair care compositions comprising optical brighteners and silicone compounds
IN Luo, Xiaochun; Setser, Julia Leet; Mitsumatsu, Arata
PA The Procter & Gamble Company, USA
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K007-13
ICS A61K007-06
CC 62-3 (Essential Oils and Cosmetics)
FAN.CNT 5

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9913846 | A1 | 19990325 | WO 1997-US16412 | 19970917 |

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG,

UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

WO 9913823 A2 19990325 WO 1998-IB1381 19980904
WO 9913823 A3 19990812
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9888190 A1 19990405 AU 1998-88190 19980904
BR 9812818 A 20000808 BR 1998-12818 19980904
EP 1028697 A2 20000823 EP 1998-939798 19980904
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI
JP 2001516701 T2 20011002 JP 2000-511451 19980904
PRAI WO 1997-US16412 A 19970917
WO 1997-US16615 A 19970917
WO 1997-US16617 A 19970917
WO 1997-US16618 A 19970917
WO 1997-US16619 A 19970917
WO 1998-IB1381 W 19980904

AB Disclosed are hair care compns. comprising: (a) an effective amt. of an optical brightener selected from the group consisting of polystyrylstilbenes, **hydroxycoumarins**, triazoles, pyrazolines, oxazoles, pyrenes, porphyrins, imidazoles, and mixts. thereof; and (b) a silicone compd. Further disclosed are shampoo compns. comprising: (a) an effective amt. of an optical brightener; (b) a detersive surfactant suitable for cleansing the hair; and (c) a silicone compd. A shampoo contained disodium 4,4-bis(2-sulfostyryl)biphenyl 0.8, silicones 2, ammonium laureth-3 sulfate 12, ammonium lauryl sulfate 2, cocamide MEA 1.5, DMDM hydantoin 0.2, NaH2PO4/Na2HPO4 0-0.5, and deionized water q.s. to 100 %.

ST shampoo optical brightener polysiloxane surfactant; stilbene optical brightener polysiloxane hair prepn

IT Quaternary ammonium compounds, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(alkyltrimethyl, chlorides; shampoos contg. optical brighteners and silicone compds. and surfactants)

IT Fluorescent brighteners
Hair preparations
Shampoos
(shampoos contg. optical brighteners and silicone compds. and surfactants)

IT Polysiloxanes, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(shampoos contg. optical brighteners and silicone compds. and surfactants)

IT 107-43-7D, coco amidopropyl deriv.
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Coco amidopropylbetaines; shampoos contg. optical brighteners and silicone compds. and surfactants)

IT 56-86-0D, L-Glutamic acid, N-acyl derivs., triethanolamine salt 87-01-4,

4-Methyl-7-dimethylaminocoumarin 137-16-6, Sodium lauroyl sarcosinate 529-84-0, 4-Methyl-6,7-**dihydroxycoumarin** 627-83-8, Ethylene glycol distearate 2235-54-3, Ammonium lauryl sulfate 2397-00-4, 4,4'-Bis(5-methylbenzoxazol-2-yl)stilbene 2744-49-2, Blankophor dcb 3271-22-5 4193-55-9, Tinopal UNPA-GX 4434-38-2 9002-92-0 9004-62-0, **Hydroxyethyl** cellulose 9005-67-8, **Polysorbate** 60 20182-63-2, Stearamidopropyldimethylamine 26590-05-6, Polyquaternium-7 27344-41-8, Tinopal CBX 32612-48-9, Ammonium laureth sulfate **57675-44-2**, Trimethylolpropane trioleate 62125-22-8, Pentaerythritol tetraisostearate 68541-50-4, Trimethylolpropane triisostearate 81859-24-7, Polyquaternium-10 82853-33-6, Varisoft 110 138757-67-2, Carbopol 980 163063-14-7, Aculyn22 180032-23-9, Polysurf 67 192582-78-8, Glucquat 125 208728-31-8, Plantacare 2000UP

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(shampoos contg. optical brighteners and silicone compds. and surfactants)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Colgate Palmolive Co; WO 9406409 A 1994 HCAPLUS
(2) Corning, D; EP 0336709 A 1989 HCAPLUS
(3) Curtis Helene Ind Inc; EP 0717978 A 1996 HCAPLUS
(4) Gen Electric; GB 2307639 A 1997 HCAPLUS
(5) Grand, P; US 4312855 A 1982 HCAPLUS
(6) Henkel Kgaa; DE 2632810 A 1978 HCAPLUS
(7) Kao Corp; EP 0733355 A 1996 HCAPLUS
(8) Kao Corp; EP 0834303 A 1998 HCAPLUS
(9) Unilever Ltd; GB 1328108 A 1973
(10) Wella Ag; EP 0754443 A 1997 HCAPLUS

IT **57675-44-2**, Trimethylolpropane trioleate

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

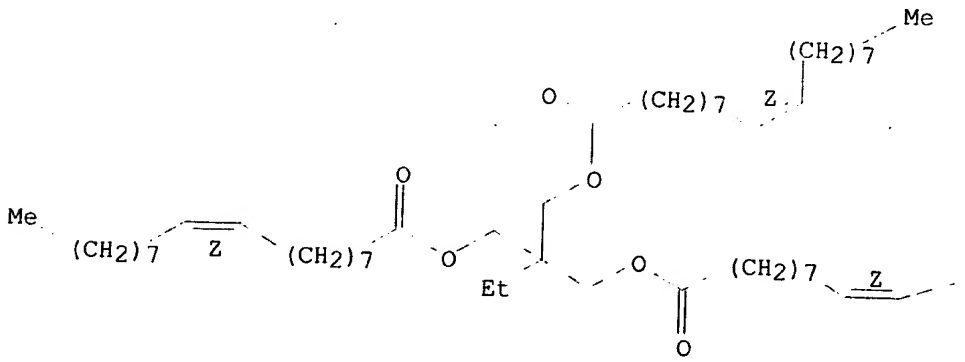
(shampoos contg. optical brighteners and silicone compds. and surfactants)

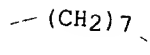
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:139432 HCAPLUS
DN 130:184720
TI Lubricants for plastic working of metals
IN Sakai, Kenji; Aizawa, Yuji; Goto, Koichi
PA Kyodo Oil and Fats Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M159-22
ICS C10M129-40; C10M129-58; C10M129-93; C10M135-06; C10M135-18; C10M135-22; C10M135-36; C10M137-10; C10M139-00; C10M163-00; C10N010-02; C10N010-04; C10N010-06; C10N010-08; C10N020-00; C10N030-04; C10N030-06; C10N030-08; C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 11050078 | A2 | 19990223 | JP 1998-154223 | 19980603 |
| PRAI | JP 1997-146277 | | 19970604 | | |

AB **Lubricants** for plastic working of metals contain highly basic alk. earth **salicylates**, **antiwear additives** and base oils.
ST lubricant metal plastic working; overbased calcium **salicylate** metalworking lubricant
IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(alkyl, **antiwear additive**; **lubricants** for plastic working of metals)
IT **Lubricating** oil **antiwear additives**
(**antiwear additive**; **lubricants** for plastic working of metals)
IT Naphthenic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, **antiwear additive**; **lubricants** for plastic working of metals)
IT Lubricants
Lubricating oils
(forging; lubricants for plastic working of metals)
IT Metalworking oils
(lubricants for plastic working of metals)

IT Tallow fatty acids
RL: MOA (Modifier or additive use); USES (Uses)
(sodium salts, **antiwear additive; lubricants** for plastic working of metals)

IT Fats and Glyceridic oils, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sulfurized, **antiwear additive; lubricants** for plastic working of metals)

IT Fatty acid salts
RL: MOA (Modifier or additive use); USES (Uses)
(tallow fatty acid sodium salts, **antiwear additive; lubricants** for plastic working of metals)

IT 108-30-5D, Succinic anhydride, alkenyl derivs. 136-53-8, Zinc 2-ethylhexanoate 149-30-4D, 2-Mercaptobenzothiazole, metal salts 594-07-0D, Carbamodithioic acid, dialkyl esters, metal salts 637-12-7, Aluminum stearate 688-37-9, Aluminum oleate 7440-31-5D, Tin, alkyl sulfide derivs. 15834-33-0D, Phosphorodithioic acid, dialkyl esters, zinc salts
RL: MOA (Modifier or additive use); USES (Uses)
(**antiwear additive; lubricants** for plastic working of metals)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for plastic working of metals)

IT **69-72-7D, Salicylic** acid, derivs., alk. earth metal salts, overbased
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(lubricants for plastic working of metals)

IT 37268-90-9, S45C, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants for plastic working of metals)

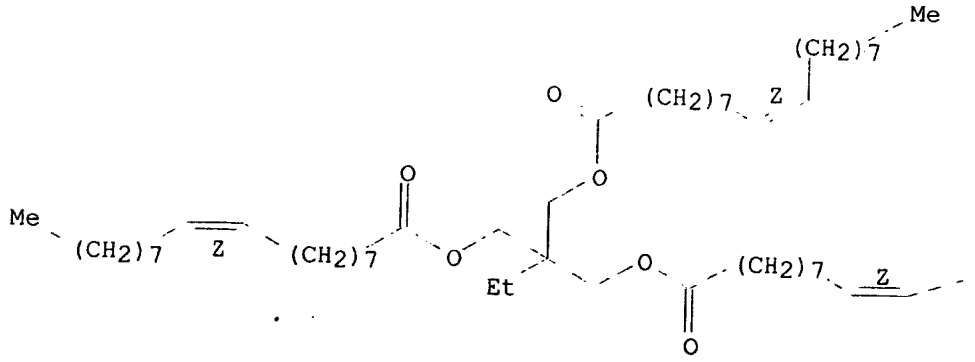
IT **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for plastic working of metals)

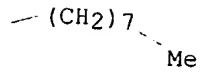
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

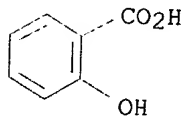
Double bond geometry as shown.

PAGE 1-A





IT **69-72-7D, Salicylic** acid, derivs., alk. earth metal salts, overbased
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(lubricants for plastic working of metals)
RN 69-72-7 HCAPLUS
CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L53 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:674995 HCAPLUS
DN 129:345281
TI Metalworking oil compositions
IN Tsuchitani, Masanori; Oikawa, Isao; Sano, Mizuho
PA Kyodo Oil and Fats Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M137-04
ICS C10M159-02; C10N030-04; C10N040-24; C10N050-02
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 10279976 | A2 | 19981020 | JP 1997-83667 | 19970402 |

AB Water-sol. metalworking oil compns. contain base oils, surfactants and lecithins.
ST metalworking oil aq compn surfactant lecithin
IT Metalworking oils
Nonionic surfactants
(aq. metalworking oil compns.)
IT Egg yolk lecithins
Lecithins

Soya lecithins
RL: MOA (Modifier or additive use); USES (Uses)
(aq. metalworking oil compns.)

IT Palm oil
Tallow
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oils contg.; aq. metalworking oil compns.)

IT Metalworking
(plastic; aq. metalworking oil compns.)

IT Fats and Glyceridic oils, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sulfurized; aq. metalworking oil compns.)

IT Ethoxylated hydrogenated castor oil
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(surfactant; aq. metalworking oil compns.)

IT Metalworking oils
(water-based emulsions; aq. metalworking oil compns.)

IT Emulsions
(water-based metalworking oils; aq. metalworking oil compns.)

IT 102-71-6, Triethanolamine, uses 112-70-9, Tridecyl alcohol 112-80-1, Oleic acid, uses 128-37-0, BHT, uses 21302-09-0, Dilauryl hydrogen phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(aq. metalworking oil compns.)

IT 109-36-4, Octyl stearate 16958-85-3, Octyl palmitate **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oils contg.; aq. metalworking oil compns.)

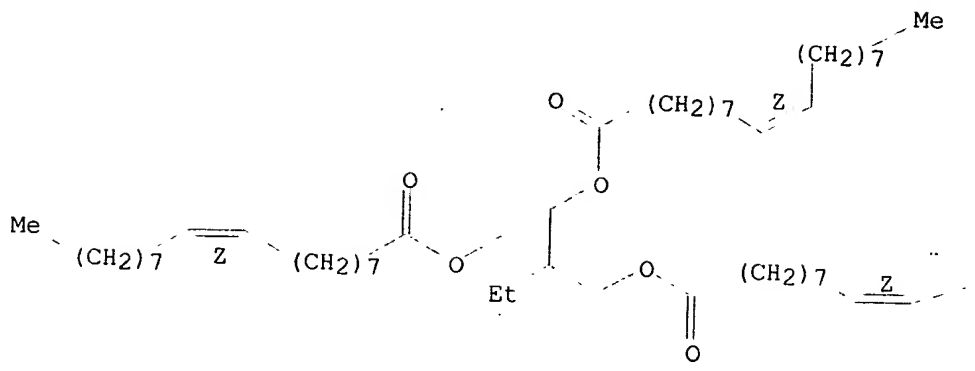
IT 1338-43-8, Sorbitan monooleate 9005-07-6, Polyethylene glycol dioleate 9005-70-3, Polyethylene glycol sorbitan trioleate 9016-45-9, Polyethylene glycol nonylphenol ether 69070-98-0, Polyethylene glycol **sorbitol** tetraoleate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(surfactant; aq. metalworking oil compns.)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oils contg.; aq. metalworking oil compns.)

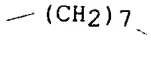
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:642140 HCAPLUS
DN 129:318555
TI Lubricants for high-temperature plastic processing
IN Yamanaka, Yasuo; Kinohara, Naoki; Ihara, Hajime; Kamiyashiki, Hiroshi
PA Kyodo Oil and Fats Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M129-28
ICS C10M159-22; C10N010-04; C10N020-04; C10N030-00; C10N030-04; C10N030-06; C10N030-08; C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 10259391 | A2 | 19980929 | JP 1997-339691 | 19971210 |
| PRAI | JP 1997-5224 | | 19970116 | | |

AB Lubricants for high-temp. plastic working of metals contain branched fatty acids or their salts. The lubricants can further contain highly basic alk. earth **salicylates**.

ST lubricant high temp plastic metalworking; branched fatty acid lubricant hot metalworking; **salicylate** alk earth plastic metalworking lubricant

IT Rape oil
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(branched fatty acids; lubricants for high-temp. plastic processing)

IT Metalworking oils
(lubricants for high-temp. plastic processing)

IT Lubricating oils
(rolling oils, hot; lubricants for high-temp. plastic processing)

IT 26896-18-4, Isononanoic acid
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(Cekanoic C-9 Acid; lubricants for high-temp. plastic processing)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)

IT **69-72-7D**, **Salicylic** acid, alk. earth salts, overbased
5422-52-6, Isocarb 12 30399-84-9, Emersol 871 181788-76-1, OSCA 431
181788-77-2, OSCA 435 181788-78-3, OSCA 438 214828-62-3 214828-65-6
214828-68-9, Isopentacontanoic acid
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(lubricants for high-temp. plastic processing)

IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants for high-temp. plastic processing)

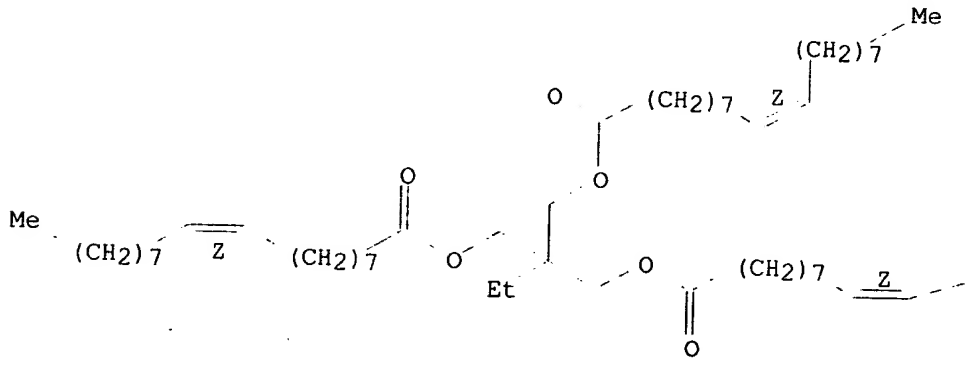
IT **57675-44-2**, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)

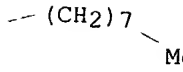
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

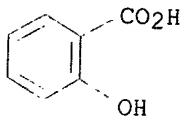
Double bond geometry as shown.

PAGE 1-A





IT **69-72-7D, Salicylic** acid, alk. earth salts, overbased
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(lubricants for high-temp. plastic processing)
RN 69-72-7 HCAPLUS
CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L53 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:392550 HCAPLUS
DN 129:83607
TI Lubricants for metal plastic working
IN Sakai, Kenji; Goto, Koichi
PA Kyodo, Yushi, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICS C10M169-04; C10M159-22; C10M119-20; C10M119-28; C10N010-04; C10N030-04; C10N030-06; C10N030-08; C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

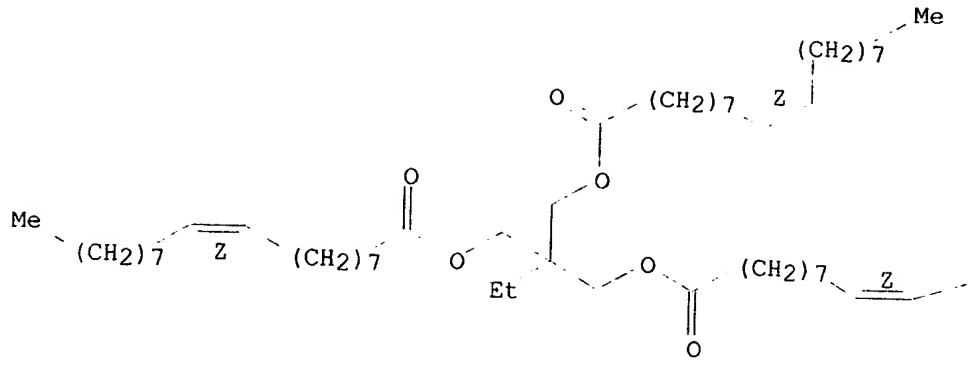
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 10158676 | A2 | 19980616 | JP 1996-319159 | 19961129 |

AB Lubricants for plastic working of metals, e.g., steel, contain base oils, highly basic alk. earth metal salts of org. acids, and carbohydrates.
ST lubricant metal plastic working steel; carbohydrate basic alk earth salt lubricant
IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(alk. earth metal salts, overbased; lubricants for metal plastic

working)
IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(alk. earth salts, overbased; lubricants for metal plastic working)
IT Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
IT Alkaline earth salts
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(carboxylates, overbased; lubricants for metal plastic working)
IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di-tert-dodecyl, load-carrying **additives**; **lubricants** for metal plastic working)
IT **Lubricating** oil **antiwear additives**
Metalworking oils
(**lubricants** for metal plastic working)
IT Carbohydrates, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(lubricants for metal plastic working)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
IT 6990-43-8, Zinc dibutyldithiophosphate
RL: MOA (Modifier or additive use); USES (Uses)
(load-carrying **additive**; **lubricants** for metal plastic working)
IT 57-50-1, Sucrose, uses 108-95-2D, Phenol, derivs., alk. earth salts, highly basic 9005-25-8, Tapioca, uses 9005-32-7D, Alginic acid, salts 9015-14-9D, Cellulose phosphate, salts 11078-31-2, Glucomannan 11120-02-8D, Starch phosphate, salts 12619-70-4, Cyclodextrin 53241-15-9, Starch phosphate sodium salt 175834-20-5, Bryton C 400 187112-05-6, ADX 410J 187112-34-1, LUbrizol 5341
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(lubricants for metal plastic working)
IT 37268-90-9, S 45C, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants for metal plastic working)
IT 9004-34-6, Cellulose, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(powder; lubricants for metal plastic working)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



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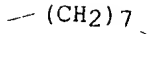


L53 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:389252 HCAPLUS
DN 129:43182
TI Arc welding tip antifriction agents of lubricants
IN Komatsu, Tadao; Fujimoto, Akihiko; Yamamoto, Michihiro; Soda, Takao
PA Ishihara Yakuhin Co., Ltd., Japan; Matsumura Sekiyu Kenkyusho
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M105-32
ICS B23K009-26; C10M147-00; C10N030-02; C10N040-20
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 10158669 | A2 | 19980616 | JP 1996-334777 | 19961129 |

AB The lubricants contain esters 1-70, chlorinated components 10-70, and viscosity index improvers 1-20%. The lubricants are used to prevent **wear** of welding tip hole formed by friction between tip and wire in arc welding.
ST arc welding tip antifriction agent lubricant; ester arc welding tip

lubricant; chlorinated component arc welding tip lubricant; viscosity index improver arc welding lubricant

IT Welding of metals
(arc; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT Lard
RL: TEM (Technical or engineered material use); USES (Uses)
(chlorinated; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT Paraffin waxes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(chloro; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT Lubricants
Lubricating oil viscosity improvers
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT Esters, uses
Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

IT 79-41-4D, **Methacrylic** acid, alkyl esters, polymers
RL: MOA (Modifier or additive use); USES (Uses)
(viscosity improver; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

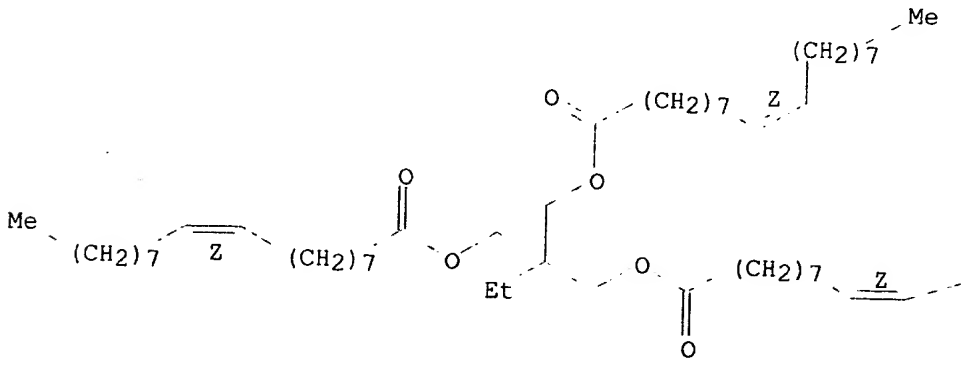
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)

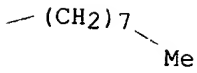
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:547400 HCAPLUS
DN 127:137973
TI Lubricants with carbon dioxide and polar organic compounds in mechanical working of solids
IN Skold, Rolf
PA Skold, Rolf, Swed.
SO PCT Int. Appl., 11 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C10M129-02
ICS B23Q011-10; F16N015-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 38, 56, 57
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9725393 | A1 | 19970717 | WO 1996-SE1701 | 19961219 |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | SE 9600042 | A | 19970706 | SE 1996-42 | 19960105 |
| | SE 505859 | C2 | 19971020 | | |
| | AU 9713235 | A1 | 19970801 | AU 1997-13235 | 19961219 |
| | EP 901510 | A1 | 19990317 | EP 1996-944719 | 19961219 |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| | BR 9612424 | A | 19990713 | BR 1996-12424 | 19961219 |
| | JP 2000505826 | T2 | 20000516 | JP 1997-525126 | 19961219 |
| | US 6083887 | A | 20000704 | US 1998-101156 | 19981028 |
| PRAI | SE 1996-42 | A | 19960105 | | |
| | WO 1996-SE1701 | W | 19961219 | | |

AB The lubricants for mech. working of metals, plastics, and glass with cooling contain: (a) liq. CO2 as the carrier and coolant; and (b) polar org. compds. sol. or dispersible at preferably 0.5-4% in the CO2, and selected from the compds. contg. .gtoreq.1 O atom and having the b.p. >200.degree. and preferably the m.p. <5.degree.. The polar groups are selected from ether, hydroxyl, carboxyl, ester, and/or amido group. The liq. lubricant mixt. can be fed through internal channels in cutting tools

(esp. drill bits), the liq. CO2 is expanded in <10 s near the cutting surface for cooling, and the polar compd. provides lubrication in cutting. Drillng tests at the surface speed of 46 m/s and the bit diam. of 6 mm were conducted with the liq. CO2 carrier contg. 2% polar compd., and showed the productivity (holes/bit) of 245 with Me oleate or 89 with oleic acid, vs. only 33 with the CO2 or air.

ST liq carbon dioxide carrier polar lubricant; cutting lubricant liq carbon dioxide coolant; oleic acid lubricant carbon dioxide carrier; methyl oleate lubricant carbon dioxide carrier

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C9-11, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

IT Coco fatty acids
RL: MOA (Modifier or additive use); USES (Uses)
(Me esters, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

IT Amides, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(N-(hydroxyalkyl), polar, lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT Fatty acid esters
RL: MOA (Modifier or additive use); USES (Uses)
(coco, Me esters, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

IT **Lubricating** oil **additives**
(coolants, carbon dioxide for; **lubricant** mixts. with polar org. compds. in liq. carbon dioxide coolant for mech. working of solids)

IT Lubricants
(cooling mixt. with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT Glass, processes
Plastics, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(cutting of; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for cutting)

IT Metalworking
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricant s in; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for cutting)

IT Polyoxyalkylenes, uses
N,N-Bis(hydroxyethyl) coco amides
RL: MOA (Modifier or additive use); USES (Uses)
(lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

IT Drill bits
(lubricants for; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT Alcohols, processes
Carboxylic acids, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT Organic compounds, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polar, lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT 124-38-9, Carbon dioxide, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(liq., lubricating mixt. with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)

IT 111-42-2D, Diethanolamine, coco alkyl derivs. 111-58-0D, ethoxylated 112-35-6, Triethylene glycol monomethyl ether 112-62-9D, Methyl oleate, ethoxylated 112-80-1, Oleic acid, uses 123-79-5, Adipic acid, dioctyl ester 9005-07-6, Polyethylene glycol, dioleate 10024-47-2, Isobutyl oleate 25322-68-3 30399-84-9, Isostearic acid 34590-94-8, Dipropylene glycol monomethyl ether 36936-60-4 37310-83-1, Oleyl phosphate **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

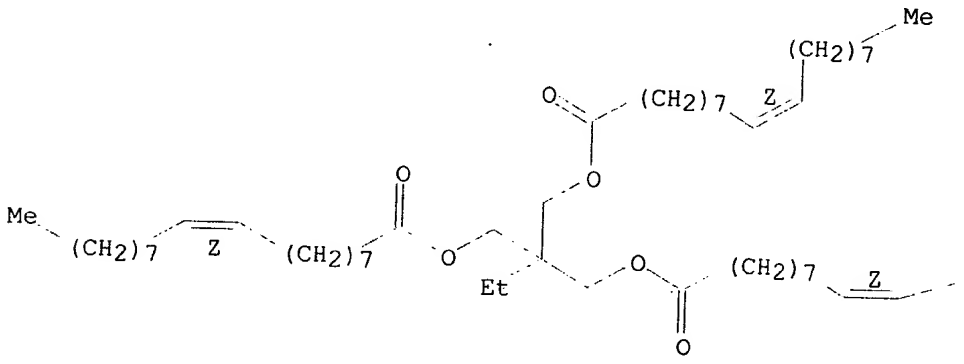
IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)

RN 57675-44-2 HCAPLUS

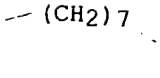
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B

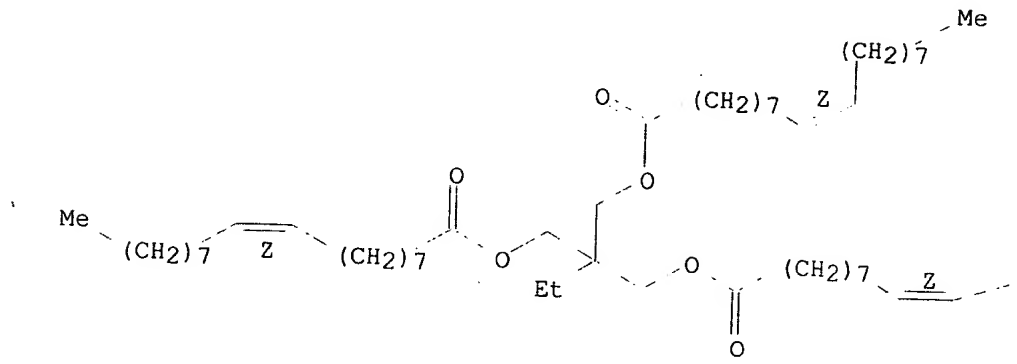


L53 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:509740 HCAPLUS
DN 127:150783
TI Biodegradable metalworking and hydraulic fluids
AU Zeman, Alfred
CS Universitat Bundeswehr Munchen, Neubiberg, D-85577, Germany
SO Tribol. Schmierungstech. (1997), 44(4), 160-165
CODEN: TRSCEM; ISSN: 0724-3472
PB Vincentz
DT Journal
LA German
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB Anal. investigations on the detn. of components, additives, and aging state of biodegradable metalworking and hydraulic fluids are presented. Fast screening of com. products by chem. ionization (NH3)-mass spectrometry, CI(NH3)-MS, showed that most oils were pure rapeseed oils or mixts. of rapeseed oil and 2-ethylhexyl esters of rapeseed oil fatty acids or oleic acid. Most oh the investigated hydraulic fluids had a rapeseed oil or trimethylolpropane trioleate esterbase. Identification and quantification of additives was performed by gel permeation chromatog. (GPC) with refraction index, diode array, and fluorescence detection. Pressure differential scanning calorimetry was suitable to assess the aging state of used oils. abs:this can also be done by detn. of oligo-/polymer concns. in the oils by GPC.
ST biodegradable lubricant hydraulic fluid analysis aging; rapeseed oil metalworking hydraulic fluid; mass spectrometry biodegradable lubricant characterization
IT Gel permeation chromatography
Mass spectrometry
(characterization of biodegradable metalworking oils and hydraulic fluids by)
IT Hydraulic fluids
Lubricating oil antioxidants
**Lubricating** oil **antiwear additives**
Metalworking oils
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
IT Rape oil
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
IT Fatty acid esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(ethylhexyl ester; characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
IT 112-80-1D, Oleic acid, 2-ethylhexyl ester 589-81-1D, 2-Ethylhexane, esters with oleic acid and rapeseed oil **57675-44-2D**, Trimethylolpropane trioleate, esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
IT **57675-44-2D**, Trimethylolpropane trioleate, esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)

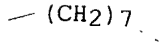
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B




L53 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:141040 HCAPLUS
DN 126:146142
TI Extreme-pressure additive, friction coefficient modifier and functional fluids
IN Takagi, Fumiaki; Abe, Kazuaki
PA Idemitsu Kosan Co., Ltd., Japan; Takagi, Fumiaki; Abe, Kazuaki
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C10M105-20
ICS C10M105-24; C10M105-32; C10M129-24; C10M129-32; C10M129-68; C10N030-06; C10N040-08; C10N040-20
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 50, 55, 59
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

| | | | | | |
|---|---|---|---|---|---|
| PI | WO 9641851 | A1 | 19961227 | WO 1996-JP1557 | 19960607 |
| | W: JP, KR, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 842999 | A1 | 19980520 | EP 1996-916344 | 19960607 |
| | R: BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| | EP 1174488 | A1 | 20020123 | EP 2001-121749 | 19960607 |
| | R: BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| | US 6008168 | A | 19991228 | US 1997-952974 | 19971208 |
| | US 6136761 | A | 20001024 | US 1999-290172 | 19990413 |
| | US 6310012 | B1 | 20011030 | US 2000-650902 | 20000830 |
| PRAI | JP 1995-141555 | A | 19950608 | | |
| | EP 1996-916344 | A3 | 19960607 | | |
| | WO 1996-JP1557 | W | 19960607 | | |
| | US 1997-952974 | A3 | 19971208 | | |
| | US 1999-290172 | A3 | 19990413 | | |

AB This invention relates an extreme-pressure **additive** and a friction coeff. modifier each composed of a compd. having the general formula -(O:C)C(R1):C(R2)R3- (R1-3 are each H or Me, .gtoreq.1 of R2 and R3 = H) in the mol.; a load-carrying carrier fluid, a **wear**-resistant fluid and a thermally polymerizable substance contg. them resp.; and preferably a flame-retardant fluid contg. the compd. The above **additive** and modifier are excellent in performance and are suitably useful for **lubricating** oils, metalworking oils and hydraulic oils. When exposed to high temp., the above flame-retardant fluid is thermally polymd. to inhibit the vaporization of flammable substances, thus preventing a fire. Therefore, the fluid is suitable for **lubricating** oils, metalworking oils, hydraulic oils, heat treatment oils, grease, etc.

ST extreme pressure **additive** friction modifier **lubricant**; functional fluid **additive** friction modifier **antiwear**; hydraulic fluid extreme pressure **additive** antifriction; metalworking oil extreme pressure **additive** modifier; flame retardant fluid thermal polymerizable compd; safety fire prevention flame retardant fluid

IT Fireproofing agents
Hydraulic fluids
**Lubricating** greases
**Lubricating** oils
Metalworking oils
(extreme-pressure **additive** and friction coeff. modifier for functional fluids of)

IT Extreme-pressure **lubricating** oil **additives**
(friction modifiers; contg. thermally polymerizable compds. for functional fluids)

IT Electric insulators
Heat treatment
(oils; extreme-pressure additive and friction coeff. modifier for functional fluids of)

IT Fire
(prevention; extreme-pressure additive and friction coeff. modifier for functional fluids in)

IT 88-24-4, 2,2'-Methylenebis(4-ethyl-6-tert-butylphenol) 90-30-2, N-Phenyl-.alpha.-naphthylamine 150-76-5, p-Methoxyphenol 6683-19-8, Pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-**hydroxyphenyl**)propionate]
RL: MOA (Modifier or additive use); USES (Uses)
(additive; extreme-pressure additive and friction coeff. modifier for functional fluids)

IT 53894-23-8, Triisononyl trimellitate **57675-44-2**,

Trimethylolpropane trioleate 186676-65-3
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; extreme-pressure additive and friction coeff. modifier for functional fluids)

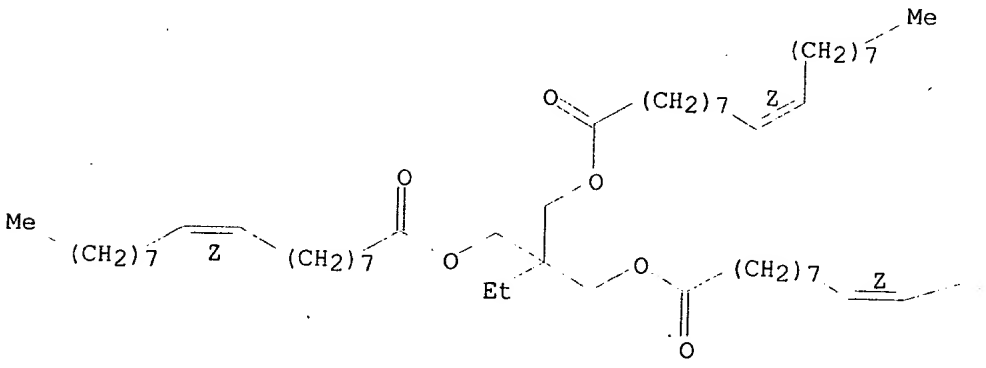
IT 502-44-3D, 2-Oxepanone, neopentyl glycol **hydroxypivalate diacrylate** modified by 26570-48-9 28961-43-5 30145-51-8D, Neopentyl glycol **hydroxypivalate diacrylate**, caprolactone-modified 52408-84-1 53879-54-2, Propoxylated trimethylolpropane **triacrylate** 186552-90-9 186552-91-0 186676-59-5 186676-60-8 186676-61-9 186676-62-0 186676-63-1 186676-64-2
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(extreme-pressure additive and friction coeff. modifier for functional fluids)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; extreme-pressure additive and friction coeff. modifier for functional fluids)

RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A

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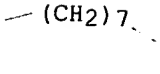
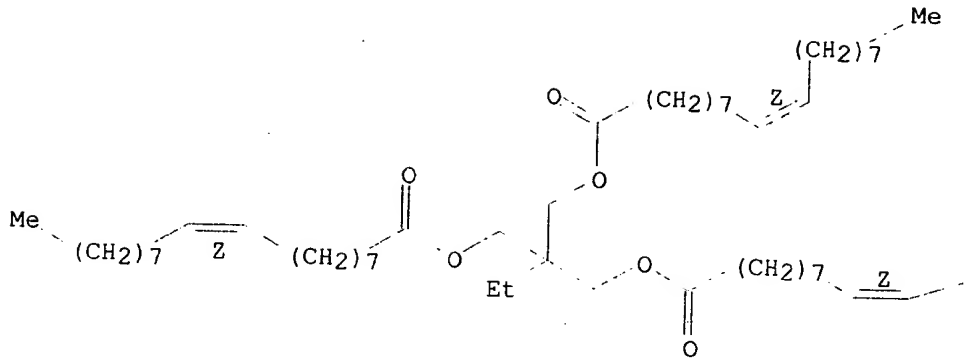


L53 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:131313 HCAPLUS
DN 126:227388
TI Some experience with biodegradable lubricants
AU Legisa, I.; Picek, M.; Nahal, K.
CS INA d.d. Rafinerija, Zagreb, Croatia
SO Synth. Lubr. (1997), 13(4), 347-360
CODEN: SYLUEB; ISSN: 0265-6582
PB Leaf Coppin Publishing Ltd.
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB The development and properties of some biodegradable **lubricating** greases (contg. lithium and calcium soaps) and hydraulic oils, both based on synthetic esters and rapeseed oil, were presented. Base esters evaluated were refined rapeseed oil, unsatd. fatty acid esters, satd. fatty acid esters, and trimethylolpropane trioleate, optionally contg. **additive** packages. It was not possible to achieve the desired oxidative and stability properties for hydraulic oils derived from rapeseed oil, esp. for use at >60.degree.. Biodegradable hydraulic oils comparable to petroleum-based high-performance can be developed from selected synthetic esters, but only at a cost 2-4 times higher. **Lubricating** greases with properties comparable to petroleum-based greases are possible from biodegradable synthetic sources.
ST biodegradable lubricating grease hydraulic oil; rapeseed oil synthetic lubricating grease; ester synthetic biodegradable hydraulic oil; fatty acid ester biodegradable hydraulic oil
IT Lubricants
(biodegradable; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Fatty acid esters
Rape oil
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Unsaturated fatty acids
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(esters; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Hydraulic fluids
Lubricating greases
(synthetic, biodegradable; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A

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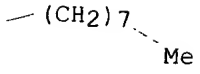



L53 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:660764 HCAPLUS
DN 125:280510
TI Water-soluble rolling oil for stainless steel sheet rolling
IN Yamamoto, Hideo; Matsumoto, Keiji
PA Sumitomo Metal Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M173-00
ICS B21B003-02; B21B027-10
ICI C10M173-00, C10M105-32, C10M137-10, C10M137-02, C10M125-16, C10M129-04, C10M129-22; C10N020-00, C10N020-02, C10N020-06, C10N030-00, C10N030-06, C10N030-08, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 08225795 | A2 | 19960903 | JP 1995-30915 | 19950220 |

AB The rolling oils, manufd. from synthetic ester base oils having viscosity

5-50 cSt at 40.degree. and contg. 3-10 wt.% emulsions from C1-18 alkylamine salts mono- or di-C6-18 alkyl phosphates and/or phosphites, contain 0.005-0.1 wt.% in the emulsions or 0.5-5 wt.% in the oils of C4-18 alcs. and/or H2O2, peracetates, perbenzoates, nitrates, and/or nitrites. The rolling oils may contain alkylamines and/or alkanolamines, and have 3-15 vol.% emulsion concn. and pH .gtoreq.8.5.

ST water sol rolling lubricating oil; phosphate alkylamine extreme pressure lubricating oil; phosphite alkylamine extreme pressure lubricating oil; alc oxidizer rolling lubricating oil

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C4-18, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amino, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT **Lubricating** oil **additives**
(metalworking, oxidizers; water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT Lubricating oils
(rolling oils, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT Fatty acids, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tallow, esters, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT 71-36-3, 1-Butanol, uses 75-04-7, Monoethylamine, uses 102-71-6, Triethanolamine, uses 109-89-7, uses 111-86-4, Monooctylamine 112-30-1, Decyl alcohol 112-90-3, Oleylamine 121-44-8, uses 143-28-2 1116-76-3, Trioctylamine 1120-48-5, Dioctylamine 6484-52-2, Ammonium nitrate, uses 7722-84-1, Hydrogen peroxide, uses 40165-68-2 171407-37-7 182939-47-5 182939-48-6 182939-49-7 182939-50-0 182939-51-1 182939-52-2 182939-53-3 182939-54-4 182939-55-5 182939-56-6 182939-57-7 182971-47-7
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT 104-76-7D, 2-Ethylhexyl alcohol, esters with tallow fatty acids 111-06-8, Butyl palmitate 112-61-8, Methyl stearate 624-03-3, Ethylene glycol dipalmitate 928-24-5, Ethylene glycol dioleate **57675-44-2**, Trimethylolpropane trioleate 67989-86-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

IT **57675-44-2**, Trimethylolpropane trioleate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))

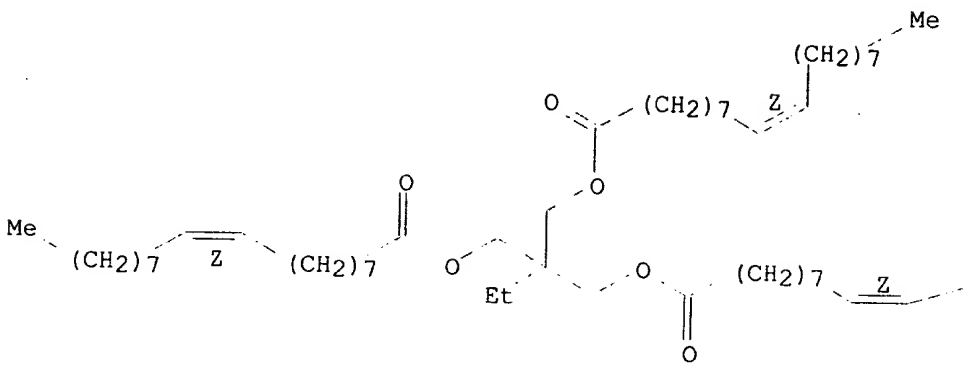
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-

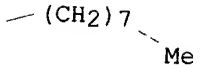
octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:660763 HCAPLUS
DN 125:280509
TI Water-soluble rolling oils for stainless steel sheets and rolling process
IN Yamamoto, Hideo; Matsumoto, Keiji
PA Sumitomo Metal Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M173-00
ICS B21B003-02; B21B027-10; B21B045-02
ICI C10M173-00, C10M105-32, C10M137-04, C10M105-74, C10M133-08, C10M129-06; C10N020-02, C10N030-06, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 08225794 | A2 | 19960903 | JP 1995-30914 | 19950220 |

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

AB The rolling oils, having av. diam. <5 .mu.m emulsions, contain synthetic ester base oils having viscosity 7-150 cSt at 40.degree., (1) amine salts of C12-36 fatty acids or dibasic acids and/or C1-18 aliph. alkylamine salts of mono- or di-C6-18 alkyl phosphates and/or phosphites 2-10, (2) C2-18 alkanolamines 2.5-10, and (3) C4-18 alcs. 2-10 wt.%. The rolling oils may contain the amine salts of fatty acids or dibasic acids, and have 3-15 vol.% emulsion concn. and pH .gtoreq.8.5. A process for cold rolling stainless steel sheets using the rolling oils is also claimed.

ST water sol rolling lubricating oil; fatty acid amine lubricating oil; dibasic acid amine lubricating oil; phosphate alkylamine lubricating oil; phosphite alkylamine lubricating oil

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C4-18, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amino, C2-18; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(coco, butylamine salts; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT **Lubricating** oil **additives**
(metalworking, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT Lubricating oils
(rolling oils, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT Fatty acids, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tallow, esters, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(unsatd., dimers, dimethylamine salts; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT 71-36-3, 1-Butanol, uses 102-71-6, Triethanolamine, uses 109-73-9D, Butylamine, salts with coco fatty acids 111-87-5, 1-Octanol, uses 112-30-1, Decyl alcohol 112-53-8, 1-Dodecanol 124-40-3D, Dimethylamine, salts with dimeric acids 143-28-2 93777-51-6 111363-95-2 171407-32-2 171407-37-7 182939-47-5 182939-48-6 182939-49-7 182939-50-0
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

IT 104-76-7D, 2-Ethylhexyl alcohol, esters with tallow fatty acids 111-06-8, Butyl palmitate 111-87-5D, 1-Octanol, diesters with dimer

acids 112-61-8, Methyl stearate 124-04-9D, Hexanedioic acid, esters with trimethylolpropane and lauric acid 143-07-7D, Dodecanoic acid, esters with trimethylolpropane and adipic acid **57675-44-2**, Trimethylolpropane trioleate 67989-86-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

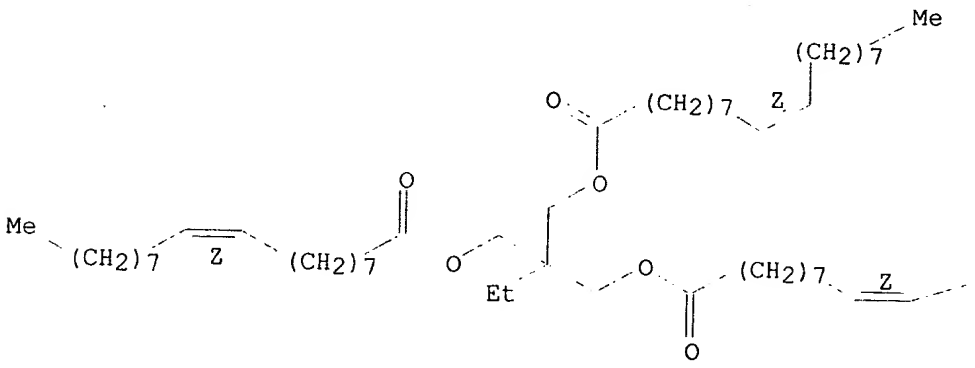
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

— $(CH_2)_7$

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L53 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1996:639070 HCAPLUS

DN 126:9809

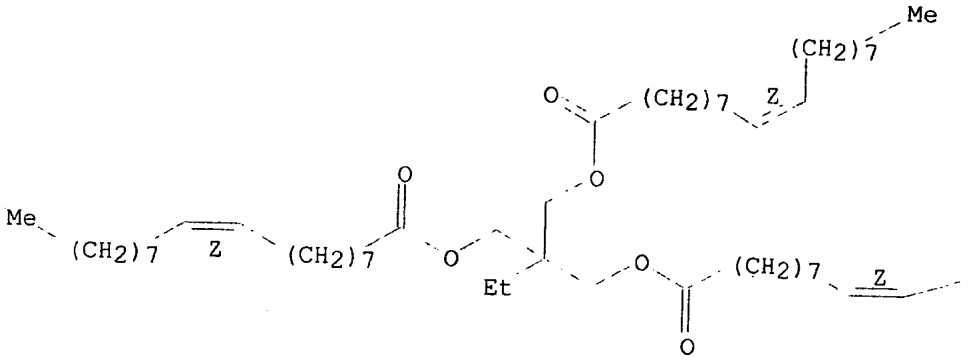
TI Friction and lubrication in drawing coated steel sheets on chromium-coated beads

AU Schey, John A.
CS Department Mechanical Engineering, University Waterloo, Waterloo, ON, N2L 3G1, Can.
SO Lubr. Eng. (1996), 52(9), 677-681
CODEN: LUENAG; ISSN: 0024-7154
PB Society of Tribologists and Lubrication Engineers
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
AB The effects of a chromium coating were studied by drawbead simulation tests on a representative range of sheet materials, with neat base oils and ester oils contg. oleic acid and a borate. On bare cold-rolled steel sheet, friction increased relative to polished or axially finished hardened steel beads. There was a smaller increase with a galvannealed sheet. In drawing electrogalvanized sheets, chromium coating reduced the sensitivity of the system to changes in the characteristics of zinc coatings and in lubricants. Friction was not necessarily reduced, but metal transfer and damage to the sheet surface were minimized.
ST lubrication metal drawing chromium coating; electrogalvanized metal drawing lubricant; galvannealed sheet metal drawing lubricant; ester lubricating metal drawing oil
IT Galvanized steel
RL: MSC (Miscellaneous)
(drawing of; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT **Lubricating** oils
(drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT Galvanized steel
RL: MSC (Miscellaneous)
(electrogalvanized, drawing of; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT Synthetic **lubricating** oils
(metalworking, ester-type, drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT Metalworking oils
(synthetic, ester-type, drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 7440-47-3, Chromium, miscellaneous
RL: MSC (Miscellaneous)
(coating; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 112-80-1, Oleic acid, uses 10043-35-3D, Boric acid (H3BO3), salts
RL: MOA (Modifier or additive use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 42222-50-4, Neopentyl glycol dioleate **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)

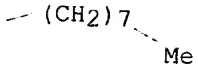
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:544229 HCAPLUS
DN 125:226166
TI Direct Observation of Boundary Layers
AU Spikes, Hugh A.
CS Department of Mechanical Engineering, Imperial College of Science, London, SW7 2BX, UK
SO Langmuir (1996), 12(19), 4567-4573
CODEN: LANGD5; ISSN: 0743-7463
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB By using a combination of spacer layer optical interferometry and spectral

anal., it has recently become possible to measure lubricant films down to less than 2 nm thickness in high-pressure, rolling ball on flat contacts. This enables the presence and some of the properties of boundary lubricating films to be obsd. directly for the first time in realistic contact conditions. This paper describes some recent work using this approach. It is shown that highly refined, nonpolar base fluids exhibit classical hydrodynamic behavior down to less than 2 nm film thickness, whereas fluids such as esters give enhanced film thickness in this very thin film region. Work on polymer solns. and base fluid mixts. suggests that the main way that such fluids form boundary layers is by preferential adsorption on solid surfaces of polar moieties from soln. This has the effect of changing the compn. and thus effective viscosity of lubricant layers close to solid surfaces, thereby leading to a hydrodynamic response different from that predicted from the bulk rheol. properties of the blend.

ST lubricant boundary layer property structure

IT Lubricants
(boundary-layer; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

IT Lubricating oils
(direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

IT Lubrication
(boundary, direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

IT 9003-31-0, Polyisoprene
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**lubricant additive**; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

IT 57-11-4, Stearic acid, uses 26761-50-2, Isooctyl oleate **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricant compn. contg.; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

IT 544-76-3, Hexadecane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricant; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

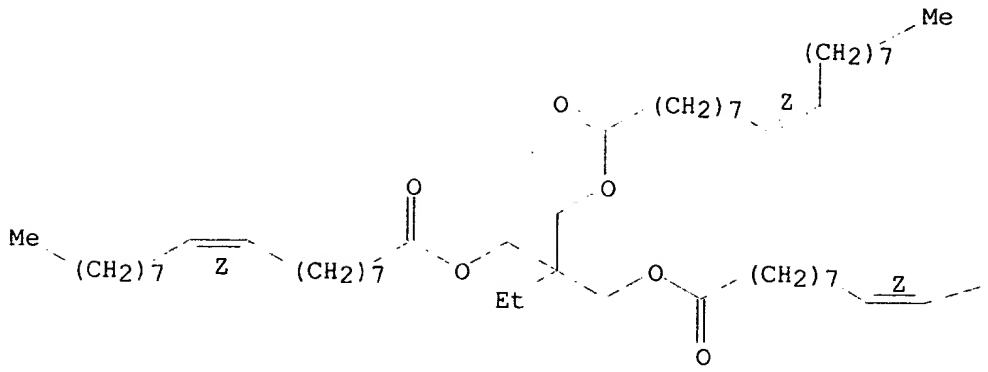
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricant compn. contg.; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



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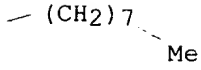


L53 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:541292 HCAPLUS
DN 125:226164
TI Lubricant effects in drawing coated sheets over nitrided die surfaces
AU Schey, John A.
CS Dep. Mechanical Eng., Univ. Waterloo, Waterloo, ON, N2L 3G1, Can.
SO Lubr. Eng. (1996), 52(8), 630-636
CODEN: LUENAG; ISSN: 0024-7154
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
AB The effects of plasma nitridation were studied by drawbead simulation tests with beads of axial, slightly cross-hatched, and circumferentially honed and polished finishes. With bare steel beads and a base oil of 10 cSt viscosity at 40.degree., a cross-hatched finish was slightly and the circumferentially honed finish greatly harmful, esp. on zinc-coated sheets that depended on the development of a stable zinc transfer layer for low friction and surface damage. Oleic acid (as impurity in oleate-based polyol ester **lubricating** oils) aggravated the situation with these sheets, whereas a borate **additive** improved it. Increasing base oil viscosity to 46 cSt attenuated the effects. Plasma nitridation produced a pebbly surface which promoted the rapid development of zinc

transfer layers and thus reduced sensitivity to sheet and **lubricant** variations. Diamond polishing of nitrided beads often prevented the formation of transfer layers and increased friction while keeping surface damage to a min.

ST galvanized sheet drawing lubrication nitridation; plasma nitridation die metal drawing lubrication; surface roughness nitridation die metal drawing

IT Galvanized iron and steel
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(drawing of; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Surface structure
(pebbling; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Lubricating oils
(cold-rolling, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Lubricating oils
(drawing oils, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Lubricating oils
(metalworking, naphthenic oil-based; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Lubricating oils
(metalworking, synthetic, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Nitridation
(plasma, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT Surface structure
(roughness, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT 112-80-1, Oleic acid, miscellaneous
RL: MSC (Miscellaneous)
(impurity; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

IT 42222-50-4, Neopentyl glycol dioleate **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

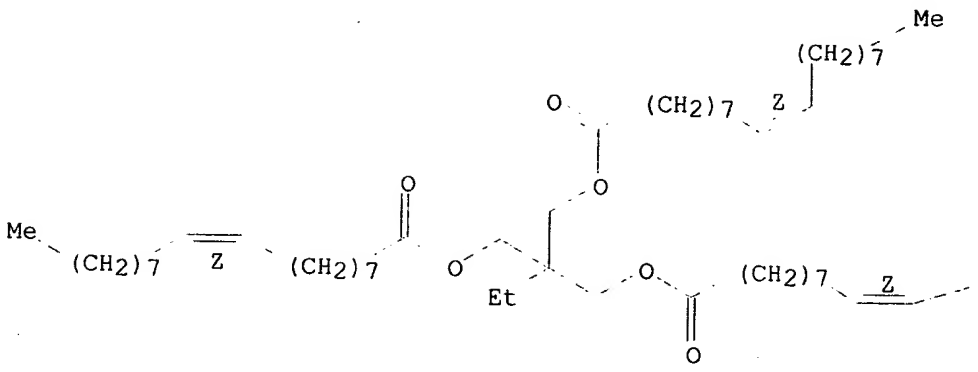
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)

RN 57675-44-2 HCAPLUS

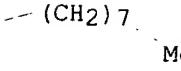
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:328681 HCAPLUS
DN 124:347928
TI Lubricating oil compositions for improved **wear** resistance and surface roughening resistance of cast iron rolls
IN Kawakami, Tamotsu; Yamamoto, Kazunobu; Ihara, Hajime; Kihara, Naoki
PA Shinnippon Seitetsu Kk, Japan; Kyodo Yushi
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M173-00
ICS B21B027-06
ICI C10M173-00, C10M109-02, C10M105-22, C10M101-02, C10M105-32, C10M103-00; C10N010-04, C10N020-06, C10N030-10, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 08067895 | A2 | 19960312 | JP 1994-207186 | 19940831 |

AB The title compns. comprise a mineral oil or synthetic ester base stock

10-90, an overbased alk. earth metal sulfonate 10-90, anhyd. carboxylic acids 0.5-50, and spherical silica grains (av. diam. 5-20 .mu.m) 0.1-10 wt.%. The compns. show kinematic viscosity .ltoreq.1000 mm2/s at 40.degree..

ST steel rolling lubricating oil compn; calcium sulfonate lubricating oil compn

IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alk. earth salts, lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alkenyl, anhyd.; lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

IT **Lubricating** oil **additives**
(antifriction-**antiwear**, for hot rolling of steel or cast iron strips)

IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(base oils contg.; lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

IT 85-44-9D, Phthalic anhydride, alkenyl derivs. 93-97-0, Benzoic anhydride 108-30-5D, Succinic anhydride, alkenyl derivs. 638-08-4, Stearic anhydride 24909-72-6, Oleic anhydride
RL: MOA (Modifier or additive use); USES (Uses)
(lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(spherical grains; lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

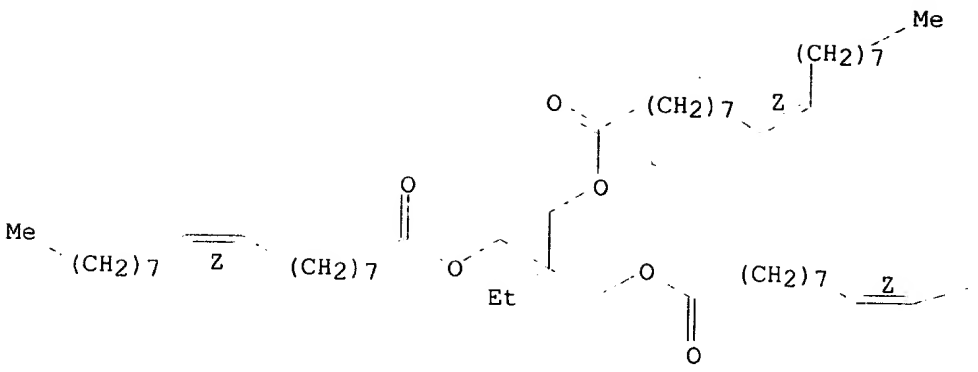
IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(base oils contg.; lubricating oil compns. for improved **wear** resistance and surface roughening resistance of cast iron rolls)

RN 57675-44-2 HCAPLUS

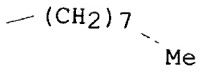
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:326431 HCAPLUS
DN 124:347917
TI **Additive** for **lubricating** oil
IN Kinker, Bernard George; Stevens, Bridget Marie; Washel, Jerry William
PA Rohm and Haas Company, USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C10M145-14
ICS C08F220-18; C10M169-04
ICI C10M145-14, C10M145-14; C10M169-04, C10M101-04, C10M105-38, C10M145-14; C10N030-02
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 710711 | A1 | 19960508 | EP 1995-306582 | 19950919 |
| | EP 710711 | B1 | 20011121 | | |
| | R: BE, DE, FR, GB, IT, NL, SE | | | | |
| | FI 9504583 | A | 19960413 | FI 1995-4583 | 19950927 |
| | AU 9532976 | A1 | 19960426 | AU 1995-32976 | 19951002 |

| | | | | | |
|---|---|---|---|---|---|
| | AU 705809 | B2 | 19990603 | | |
| | NO 9503971 | A | 19960415 | NO 1995-3971 | 19951006 |
| | CA 2160304 | AA | 19960413 | CA 1995-2160304 | 19951011 |
| | BR 9504371 | A | 19970408 | BR 1995-4371 | 19951011 |
| | JP 08209179 | A2 | 19960813 | JP 1995-289188 | 19951012 |
| | US 5696066 | A | 19971209 | US 1996-672313 | 19960628 |
| PRAI | US 1994-321674 | A | 19941012 | | |

AB The present invention provides a polymer comprising repeating units derived from a C8-15 alkyl (meth)**acrylate** monomer, and repeating units derived from a C16-24 alkyl (meth)**acrylate** monomer. The present invention also provides a biodegradable **additive** and a biodegradable **lubricating** oil compn. comprising the polymer and vegetable oil or polyol ester. The **lubricating** oil compns. exhibit improved low temp. fluidity and low temp. storage stability.

ST **lubricating** oil **additive** biodegradable

IT **Lubricating** oil **additives**
(C8-15 alkyl (meth)**acrylate**-C16-24 alkyl (meth) **acrylate** copolymers as)

IT Canola oil
RL: MOA (Modifier or additive use); USES (Uses)
(**additive** for **lubricating** oil)

IT 42222-50-4, Neopentyl glycol dioleate 56631-89-1, Lauryl **methacrylate**-stearyl **methacrylate** copolymer **57675-44-2**, Trimethylolpropane trioleate 68541-50-4, Trimethylolpropane triisostearate 177081-82-2
RL: MOA (Modifier or additive use); USES (Uses)
(**additive** for **lubricating** oil)

IT 142-90-5, Lauryl **methacrylate** 2495-27-4, Cetyl **methacrylate** 2549-53-3, Myristyl **methacrylate** 32360-05-7, Stearyl **methacrylate** 45294-18-6, Eicosyl **methacrylate**
RL: RCT (Reactant)
(**additive** for **lubricating** oil)

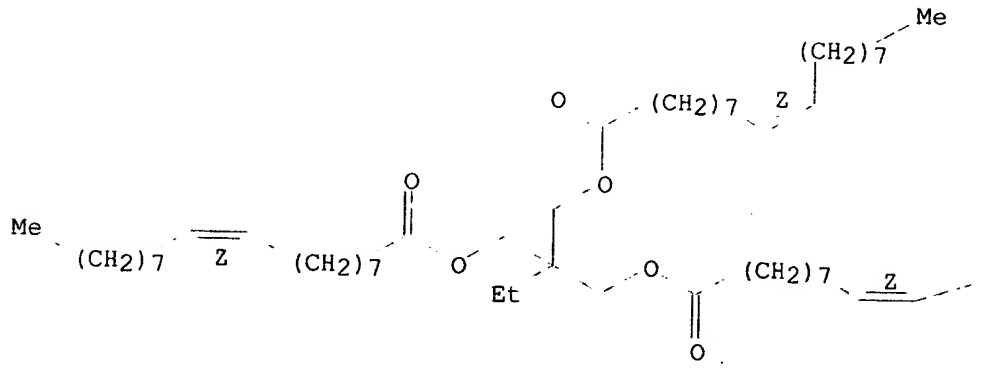
IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(**additive** for **lubricating** oil)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



—(CH2)7
Me

L53 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:184291 HCAPLUS
DN 124:206951
TI Thread cutting oils having excellent biodegradability for drinking water pipes
IN Yamamoto, Ryuichi; Inoe, Hiroshi; Maruyama, Masaaki
PA Nippon Grease Kk, Japan; Rex Ind Co
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICI C10M169-04, C10M105-32, C10M101-04, C10M129-26, C10M135-10, C10M129-16; C10N030-16, C10N040-22
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 61
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 07316580 | A2 | 19951205 | JP 1994-108750 | 19940523 |

AB The cutting oils contain synthetic ester oils and/or natural fats and oils as base oils and surfactants having excellent biodegradability. The synthetic ester oils may not contain arom. rings and/or alkyl group having many branchs. The surfactants may be nonionic surfactants or anionic surfactants.
ST thread cutting oil water pipe; ester oil cutting biodegradability surfactant; fat oil cutting screw thread
IT Esters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(oils; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sodium salts; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
IT Biodegradable materials
**Lubricating** oil **additives**
Lubricating oils
Pipes and Tubes
Screws
Surfactants
Waters, potable

(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

IT Fats and Glyceridic oils
Lard
Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C8-10, esters with trimethylolpropane; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(tallow, dioctyl esters; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

IT 25322-68-3D, alkyl ethers
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

IT 112-62-9, Methyl oleate **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

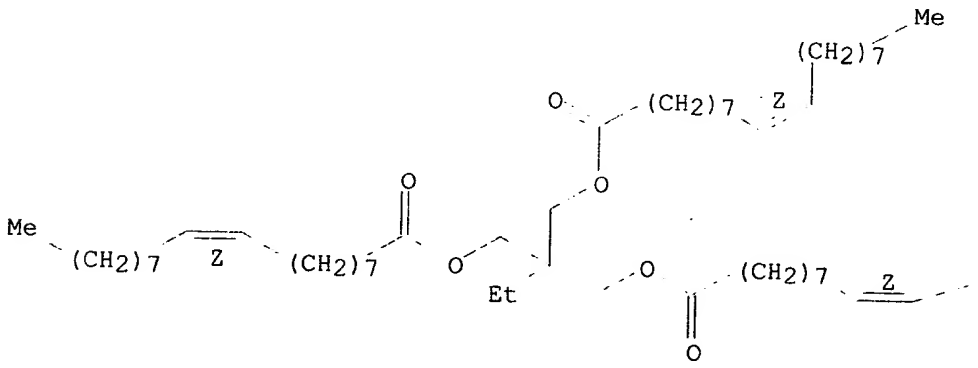
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)

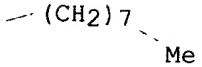
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:143469 HCAPLUS
DN 124:180620
TI **Lubricating oils** for internal combustion engines
AU Anon.
CS UK
SO Res. Discl. (1995), 376, P563-P564, 37650
CODEN: RSDSBB; ISSN: 0374-4353
PB Kenneth Mason Publications Ltd.
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB Fully formulated **lubricating oils** for heavy-duty diesel engines contain, in addn. to a base **oil**: (1) a Zn dialkyl dithiophosphate (to give a final P concn. of 0.05-0.12 wt.%), (2) a polyisobutenyl or poly(ethylene-propylene)-substituted succinimide dispersant (at 3-6 wt.% concn.), prepd. from the corresponding polyalkenylsuccinic anhydride (with alkenyl group of 700-2500 mol. wt.) and polyethylenepolyamines, (3) an overbased detergent chosen from phenates, sulfonates, and **salicylates**, (4) a viscosity index improver, and (5) a low-mol.-wt. surfactant at a 0.5-5:1 m concn. ratio of surfactant to the overbased detergent. Components (4) and (5) enhance the soot dispersancy properties of the **lubricating oil** to satisfy SAE J-300 specifications. The low-mol.-wt. surfactants are chosen from: (1) ethoxylated **sorbitol** esters of fatty acids, (2) polyethylenepolyamine derivs. of short-chain (C15-40) alkenyl-substituted maleic anhydride to yield a compd. with a single succinimide linkage, (3) **oil**-sol. imidazolines substituted with a hydroxyethyl, aminoethyl, amidoethyl, or C15-20-alkenyl or alkyl groups, and (4) N-C8-24-alkylpyrrolidones.
ST heavy duty diesel engine **lubricating oil**; surfactant overbased detergent **lubricating oil**; soot dispersancy diesel **lubricating oil**
IT Soot
(dispersion of; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
IT **Lubricating oil additives**
(detergents-dispersants, overbased; low-mol.-wt. surfactant-overbased detergent-dispersant **additive** combinations for heavy-duty diesel engines)
IT **Lubricating oil additives**
(dispersants-surfactants, low-mol.-wt. surfactant-overbased detergent-dispersant **additive** combinations for heavy-duty

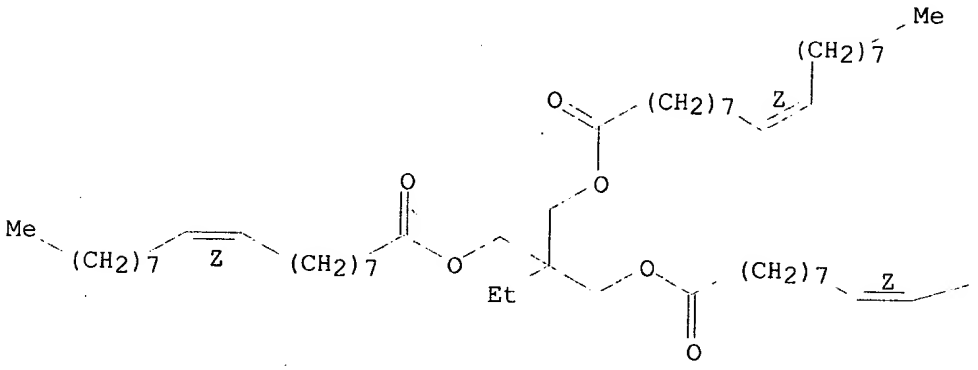
diesel engines)
IT Fatty acids, uses
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(esters, with ethoxylated **sorbitol**; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
IT Polyamines
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyethylene-, reaction products, with C15-40-alkenyl-substituted maleic anhydride; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
IT 108-31-6DP, Maleic anhydride, alkenyl derivs., reaction products with polyethylenepolyamines 111-40-0DP, Diethylenetriamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 112-24-3DP, Triethylenetetramine, reaction products with C15-40-alkenyl-substituted maleic anhydride 112-57-2DP, Tetraethylenepentamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 504-75-6DP, Imidazoline, hydroxyethyl, aminoethyl, amidoethyl, or C15-20-alkenyl or -alkyl group-substituted 616-45-5DP, Pyrrolidone, N-C8-24-alkyl derivs. 4067-16-7DP, Pentaethylenehexamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 9005-65-6DP, esters with fatty acids
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)

L53 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:80166 HCAPLUS
DN 124:179380
TI Lubrication: The use of lipochemistry
AU Demoulin, Andre
CS FINA chemicals, Felny, 7181, Belg.
SO Ol., Corps Gras, Lipides (1995), 2(4), 274-6
CODEN: OCLOEX; ISSN: 1258-8210
DT Journal
LA French
CC 45-3 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): **51**
AB Today about 90% of the lubricants are formulated on a mineral base. But for environmental reasons or increasing of demand for high performance products, some synthetic bases have been developed, mainly hydrocracked oils, poly(.alpha.-olefins), and polyol esters. These esters are produced from fatty acids and tri- or tetraols. The esters have environmental compatibility and other characteristics superior to those of other lubricants.
ST lubricant polyol fatty eater
IT Lubricating oils
(from polyol fatty acid esters)
IT Fatty acids, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(esters, lubricants from polyol fatty acid esters)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricants from polyol fatty acid esters)

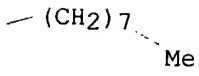
IT 124-04-9, Adipic acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(viscosity **additive; lubricants** from polyol fatty acid esters)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricants from polyol fatty acid esters)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B




L53 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:910596 HCAPLUS
DN 124:61254
TI Ester-type **wear**-resistant lubricating oil compositions containing phosphate esters
IN Shimizu, Isao
PA Yacho Risaachi Jugengaisha, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent

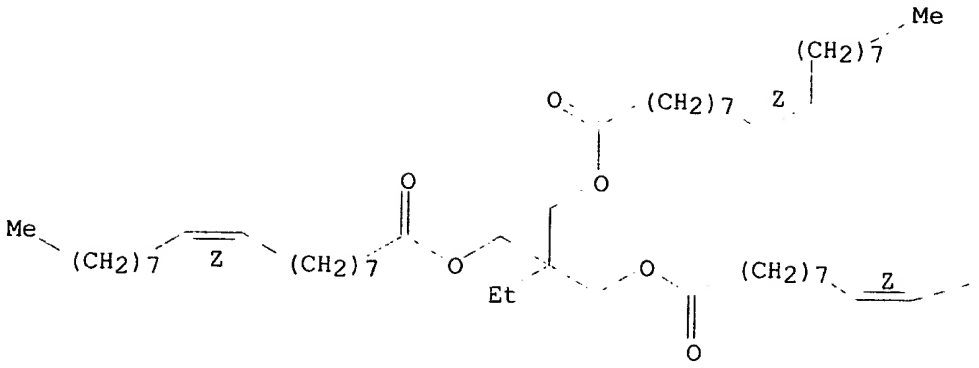
LA Japanese
IC ICM C10M169-04
ICI C10M169-04, C10M105-32, C10M137-04, C10M137-10; C10N020-02, C10N030-06, C10N040-30
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 07207291 | A2 | 19950808 | JP 1994-30749 | 19940118 |

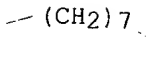
OS MARPAT 124:61254
AB Base oils contg. ester-type synthetic oils are mixed with triesters of phosphoric acid or thiophosphoric acid contg. 1-3 unsatd. bond-contg. substituents. The substituents may be alkenyl, alkenyl arom., diol unsatd. carboxylic acid mono esters, or diol unsatd. alc. mono ethers. The products, esp. suitable for refrigerator oils and biodegradable working fluids, have good **wear** resistance under high load.
ST phosphate ester **lubricating** oil **additive**;
thiophosphate ester **lubricant wear** resistance;
refrigerator fluid **additive** phosphate ester
IT Hydraulic fluids
**Lubricating** oil **additives**
Refrigerating apparatus
(ester-type **lubricating** oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
IT Carboxylic acids, uses
Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(esters, base oils; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
IT 122-62-3, Dioctyl sebacate **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
IT 77-99-6D, Trimethylolpropane, fatty esters 115-77-5D, Pentaerythritol, fatty esters
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
IT 3305-68-8, Trioleyl phosphate 16069-23-1 34419-55-1 62834-69-9 103188-25-6, Trioleyl thiophosphate 172175-49-4
RL: MOA (Modifier or additive use); USES (Uses)
(ester-type lubricating oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for **wear** resistance)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:705660 HCAPLUS
DN 123:148730
TI Functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives
IN Stoffa, John V.
PA Lubrizol Corp., USA
SO U.S., 33 pp. Cont.-in-part of U.S. 5,298,177.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10M141-00
NCL 252018000
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 3

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5427700 | A | 19950627 | US 1994-216224 | 19940322 |
| | US 5298177 | A | 19940329 | US 1993-58614 | 19930505 |
| PRAI | US 1991-743536 | B2 | 19910809 | | |
| | US 1993-58614 | A2 | 19930505 | | |

AB A functional fluid is disclosed which comprises (A) at least one triglyceride; (B) at least one detergent-inhibitor **additive**; and

(C) at least one viscosity modifying **additive** and further comprising (D) at least one synthetic **oil**. The functional fluids are suitable for use as tractor fluids, automatic transmission fluids, manual transmission fluids, hydraulic fluids, power steering fluids, and fluids related to power train components.

ST functional fluid triglyceride

IT Hydraulic fluids
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT Glycerides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT **Lubricants**
(functional fluids; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT Fluids
(power steering fluids; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT Hydraulic fluids
**Lubricating oils**
(transmission, automatic and manual; functional fluid with triglycerides, detergent-inhibitor **additives** and viscosity modifying **additives**)

IT 7446-70-0, Aluminum chloride, uses
RL: CAT (Catalyst use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT **79-10-7D**, **Acrylic** acid, esters 79-41-4D, **Methacrylic** acid, esters
RL: MOA (Modifier or additive use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT 108-88-3, Toluene, reactions 115-11-7, Isobutene, reactions 124-41-4, Sodium methoxide 7704-34-9, Sulfur, reactions 10025-67-9, Sulfur monochloride
RL: RCT (Reactant)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

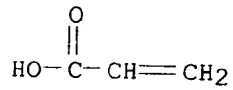
IT 78-79-5, Isoprene, uses 106-99-0, 1,3-Butadiene, uses 112-30-1, Decyl alcohol 126-99-8, Chloroprene 504-60-9, Piperylene 2555-08-0 6493-77-2, 1,3-Butadiene-methyl **acrylate** adduct 6493-78-3 6493-79-4 37981-14-9 37981-16-1 37981-17-2 37981-18-3 37981-19-4 38094-70-1, Isoprene-acrylonitrile adduct 38097-78-8 59321-72-1, Isoprene-methyl **methacrylate** adduct
RL: TEM (Technical or engineered material use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT 1072-71-5D, 2,5-Dimercapto-1,3,4-thiadiazole, derivs. 29385-43-1, Tolyltriazole
RL: MOA (Modifier or additive use); USES (Uses)
(metal passivator; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

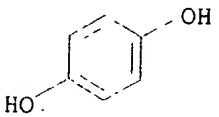
IT **123-31-9**, **Hydroquinone**, miscellaneous
RL: MSC (Miscellaneous)
(polymn. inhibitor; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)

IT 101-02-0, Triphenyl phosphite 621-77-2, Triamyl amine
RL: CAT (Catalyst use); USES (Uses)
(sulfurization catalyst; functional fluid with triglycerides,

detergent-inhibitor additives and viscosity modifying additives)
IT 74-85-1D, Ethylene, polymers 97-65-4D, Itaconic acid, polymers 100-42-5D, Styrene, polymers 108-31-6D, Maleic anhydride, polymers 110-16-7D, Maleic acid, polymers 115-07-1D, Propylene, polymers 115-11-7D, Isobutene, polymers 2170-03-8D, Itaconic anhydride, polymers
RL: MOA (Modifier or additive use); USES (Uses)
(viscosity modifier; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
IT **79-10-7D, Acrylic** acid, esters
RL: MOA (Modifier or additive use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



IT **123-31-9, Hydroquinone**, miscellaneous
RL: MSC (Miscellaneous)
(polymn. inhibitor; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
RN 123-31-9 HCAPLUS
CN 1,4-Benzenediol (9CI) (CA INDEX NAME)

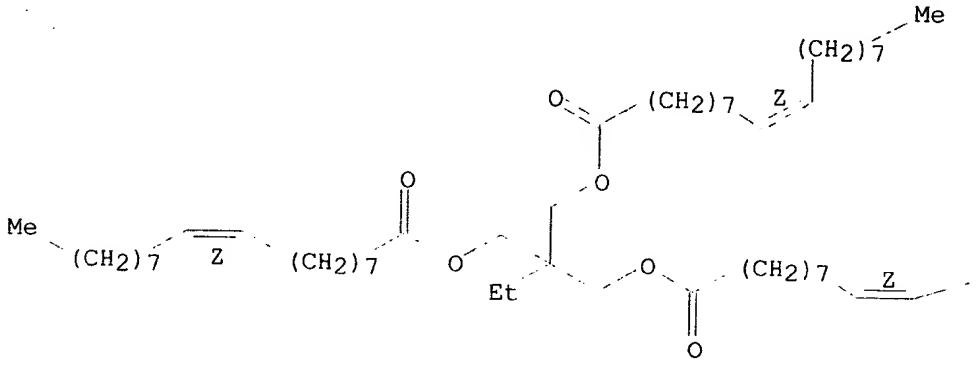


L53 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:542708 HCAPLUS
DN 123:13292
TI Development of an additive for cutting fluids and hydraulic oils
AU Cha, Sang-Rok; Kim, Sung-Joong; Kim, Chang-Seang; Jang, Young-Nung; Cho, Hyun-Bum
CS Pusan Regional Ind. Technol. Inst., S. Korea
SO Yongu Pogo - Kungnip Kongop Kisulwon (1993), 43, 281-300
CODEN: YPKKED
DT Journal
LA Korean
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB This paper presents a study on cutting fluids and hydraulic oils. With the additive studied, similar performance to that of an imported oil was obtained.
ST cutting fluid additive; hydraulic oil additive
IT Hydraulic fluids
(development of)
IT **Lubricating** oil **additives**
(for cutting fluids and hydraulic oils)
IT Lubricating oils
(cutting oils, development of)
IT **57675-44-2**, Trimethylol propane trioleate
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES

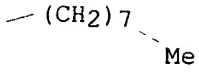
(Uses)
(additives for cutting fluids and hydraulic oils)
IT **57675-44-2**, Trimethylol propane trioleate
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(additives for cutting fluids and hydraulic oils)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:331566 HCAPLUS
DN 122:218327
TI Biodegradable lubricant
IN Morrison, David S.
PA Pennzoil Products Co., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10L001-02
ICS C10M105-32

NCL 044388000
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5378249 | A | 19950103 | US 1993-82696 | 19930628 |

OS MARPAT 122:218327

AB A biodegradable two-cycle engine oil compn. comprises (a) .apprx.20-85 wt.% of a heavy ester or a mixt. of heavy ester oils characterized by a kinematic viscosity of .gtorsim.7.0 cSt at 100.degree., (b) 10-85 wt.% of a light ester oil or a mixt. of light ester oils characterized by a kinematic viscosity of .ltorsim.6.0 cSt at 100, and optionally an additive, wherein the compn. has a biodegradability of .gtorsim.66% as measured by the CEC L-33-T-82 method.

ST biodegradable two cycle engine lubricant

IT Lubricating oils
(crankcase, biodegradable two-cycle engine oils)

IT 124586-60-3, Oloa 340r 162122-58-9, OLOA 340RB
RL: MOA (Modifier or additive use); USES (Uses)
(**additive** packages; biodegradable two-cycle engine **lubricants** contg.)

IT 53061-21-5, Plexol 305 162121-84-8, Acryloid 154-70
RL: MOA (Modifier or additive use); USES (Uses)
(**additive**; biodegradable two-cycle engine **lubricants** contg.)

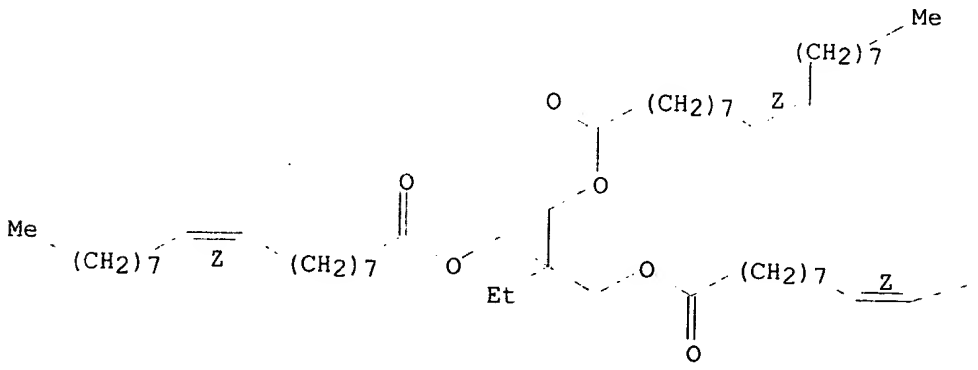
IT 122-32-7, Glycerol trioleate 25189-70-2, Emery 3002 31567-37-0 **57675-44-2**, Trimethylolpropane trioleate 68541-50-4, Priolube 3999 161716-09-2
RL: MOA (Modifier or additive use); USES (Uses)
(biodegradable two-cycle engine lubricants contg.)

IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(biodegradable two-cycle engine lubricants contg.)

RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



—(CH2)7
Me

L53 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:240005 HCAPLUS
DN 122:34976
TI Graphite-free lubricating oil
IN Sakai, Kenji; Goto, Koichi; Yokomizo, Hitoshi; Mitamura, Kazuhiro; Kawai, Toshinori; Hirofuji, Masatoshi
PA Kyodo Yushi Co., Ltd., Japan; Nissan Motor Co., Ltd.
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C10M145-40
ICS C10M161-00; C10M169-04
ICA C10N020-06; C10N040-24; C10N060-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 613939 | A2 | 19940907 | EP 1994-400428 | 19940301 |
| | EP 613939 | A3 | 19940914 | | |
| | EP 613939 | B1 | 19990915 | | |
| | R: DE, ES, FR, GB | | | | |
| | JP 06256784 | A2 | 19940913 | JP 1993-41271 | 19930302 |
| | JP 2586871 | B2 | 19970305 | | |
| | US 5460737 | A | 19951024 | US 1994-201992 | 19940225 |
| | ES 2138055 | T3 | 20000101 | ES 1994-400428 | 19940301 |
| PRAI | JP 1993-41271 | | 19930302 | | |

AB A graphite-free lubricating oil which comprises a base oil having dispersed therein 10 to 40% by wt. of a carbohydrate and/or a deriv. thereof whose particle size ranges from 10 to 150 .mu.m, 2 to 20% by wt. of a film-boosting agent and 0.1 to 20% by wt. of a dispersant. Moreover, the lubricating oil is free of black-colored substances such as graphite. Therefore, the oil permits the improvement of working surroundings and exhibits excellent properties such as formability through forging almost comparable to or even greater than that of the com. available graphite-in-oil type lubricating oils. The lubricating oil can be used instead of the graphite-contg. lubricating oils for warm forging, hot forging, rolling, tube-manufg., drawing and extrusion in place of the graphite-contg. lubricating oils and ensures the improvement in the working surroundings and excellent lubricity.
ST graphite free lubricating oil
IT Castor oil
Rape oil

RL: MOA (Modifier or additive use); USES (Uses)
(dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)

IT **Lubricating** oil **additives**
(film-boosting agents; graphite-free **lubricating** oil for forging, drawing, and extrusion)

IT Lubricating oils
(graphite-free lubricating oil for forging, drawing, and extrusion)

IT Carbohydrates and Sugars, uses
RL: MOA (Modifier or additive use); USES (Uses)
(graphite-free lubricating oil for forging, drawing, and extrusion)

IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)

IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di-tert-dodecyl, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)

IT **Lubricating** oil **additives**
(dispersants, graphite-free **lubricating** oil for forging, drawing, and extrusion)

IT Polyphosphoric acids
RL: MOA (Modifier or additive use); USES (Uses)
(potassium salts, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)

IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sodium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)

IT Lard
RL: MOA (Modifier or additive use); USES (Uses)
(sulfurized, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)

IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(tallow, calcium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)

IT 25151-96-6 **57675-44-2** 159777-62-5, Nissan Unister C 3373H
RL: MOA (Modifier or additive use); USES (Uses)
(base oil for graphite-free lubricating oil for forging, drawing, and extrusion)

IT 53241-15-9, Starch phosphate, sodium salt
RL: MOA (Modifier or additive use); USES (Uses)
(carbonate for graphite-free lubricating oil for forging, drawing, and extrusion)

IT 57-50-1, Sucrose, uses 637-12-7, Aluminum stearate 5793-84-0, Calcium phenate 7173-60-6 9004-53-9, Dextrin 9005-25-8, Starch, uses 9085-22-7, Cellulose stearate 12441-09-7D, Sorbitan, esters with C12-22 monocarboxylic acids 50975-31-0, Stearylpropylenediamine 53466-28-7, Stearylpropylenediamine dioleate 83271-10-7 159587-23-2
RL: MOA (Modifier or additive use); USES (Uses)
(dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)

IT 108-25-8, Isopropyl xanthate 136-23-2, Zinc dibutyldithiocarbamate 149-30-4, 2-Mercaptobenzothiazole 471-34-1, Calcium carbonate, uses 594-07-0D, Dithiocarbamic acid, alkyl derivs. 1314-13-2, Zinc oxide, uses 3486-35-9, Zinc carbonate 7704-34-9, Sulfur, uses 7727-43-7, Barium sulfate 7778-18-9, Calcium sulfate 10086-45-0, Calcium pyrophosphate 10102-76-8, Calcium hexametaphosphate 10109-40-7

11098-99-0, Molybdenum oxide 12738-87-3, Tin sulfide 15834-33-0D, Dithiophosphoric acid, alkyl derivs. 37367-98-9, Calcium molybdate 61583-60-6, Zinc molybdate 146509-31-1 159587-22-1
RL: MOA (Modifier or additive use); USES (Uses)
(film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)

IT 9004-34-6, Cellulose, uses 9005-32-7D, Alginic acid, alkali metal salts
RL: MOA (Modifier or additive use); USES (Uses)
(graphite-free lubricating oil for forging, drawing, and extrusion)

IT 7782-42-5, Graphite, uses
RL: NUU (Other use, unclassified); USES (Uses)
(graphite-free lubricating oil for forging, drawing, and extrusion)

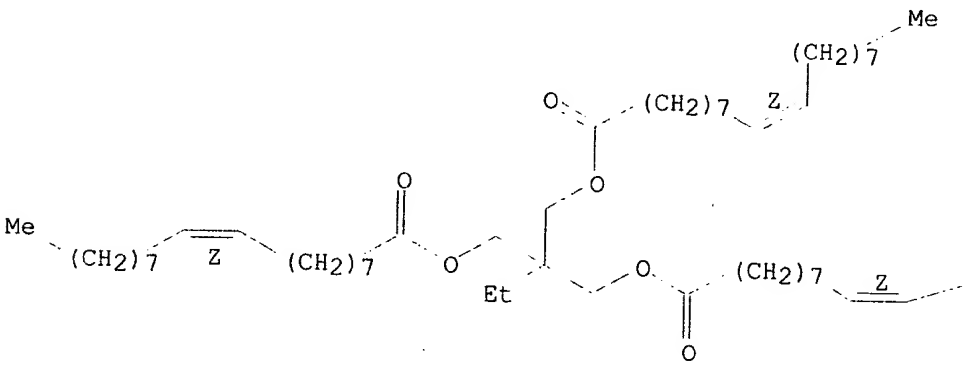
IT **57675-44-2**
RL: MOA (Modifier or additive use); USES (Uses)
(base oil for graphite-free lubricating oil for forging, drawing, and extrusion)

RN 57675-44-2 HCAPLUS

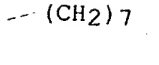
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B




L53 ANSWER 33 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:139054 HCAPLUS

DN 120:139054
TI Environment-compatible and biologically rapidly decomposable **lubricants** for circular **lubrication** of engines and other units in cars and machine tools
PA Fuchs Petrolub AG Oel und Chemie, Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C10M169-04
ICI C10M169-04, C10M105-32, C10M129-10, C10M133-04, C10M133-12, C10M133-18, C10M137-02, C10M135-30, C10M135-26, C10M129-16, C10M133-40, C10M129-72, C10M129-76, C10M133-44, C10M133-22, C10M135-36, C10M135-20, C10M133-48, C10M129-74
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 4217961 | A1 | 19931202 | DE 1992-4217961 | 19920530 |
| | EP 572866 | A1 | 19931208 | EP 1993-108141 | 19930519 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
PRAI DE 1992-4217961 19920530
AB The title **lubricants** for internal-combustion engines of spark- or auto-ignition with circular **lubrication**, units (e.g., gears, hydraulics, clutches, etc.) in cars and machine tools, consist of a biol. decomposable base **oil** and **additives** which are non-toxic and non-polluting.
ST engine **oil** biol decomposable antipolluting
IT Tocopherols
RL: USES (Uses)
(antioxidant, **lubricants** contg., environment-compatible and biol. decomposable)
IT Hydraulic fluids
(compns. of, environment-compatible and biol. decomposable)
IT **Acrylic** polymers, uses
Polyethers, uses
RL: USES (Uses)
(viscosity improver, **lubricants** contg., environment-compatible and biol. decomposable)
IT **Lubricating oils**
(crankcase, compns. of, environment-compatible and biol. decomposable)
IT Carboxylic acids, esters
RL: USES (Uses)
(di-, esters, **lubricants** contg., environment-compatible and biol. decomposable)
IT Siloxanes and Silicones, uses
RL: USES (Uses)
(di-Me, antifoaming agent, **lubricants** contg., environment-compatible and biol. decomposable)
IT **Lubricating oils**
(gear **oils**, compns. of, environment-compatible and biol. decomposable)
IT Alcohols, esters
RL: USES (Uses)
(polyhydric, esters, **lubricants** contg., environment-compatible and biol. decomposable)
IT Fatty acids, polymers
RL: USES (Uses)
(unsatd., dimers, esters, **lubricants** contg., environment-compatible and biol. decomposable)

IT 25322-68-3D, Polyethylene glycol, ethers
RL: USES (Uses)
(antifoaming agent, **lubricants** contg., environment-compatible and biol. decomposable)

IT 88-58-4 90-30-2, N-Phenyl-1-naphthylamine 111-17-1, Thiodipropionic acid 119-47-1 122-39-4, Diphenylamine, uses 122-39-4D, Diphenylamine, octylated 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses 128-39-2, 2,6-Di-tert-butylphenol 147-47-7, 2,2,4-Trimethyl-1,2-**dihydroquinone** 489-01-0, 2,6-Di-tert-butyl-4-methoxyphenol 824-46-4, **Methoxyhydroquinone** 1709-70-2, 1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-2,4,6-trimethylbenzene 1879-09-0, 2-tert-Butyl-4,6-dimethylphenol 2082-79-3 4130-42-1, 2,6-Di-tert-butyl-4-ethylphenol 16857-10-6, 2,2'-Thiobis(4-octylphenol) 25013-16-5, Butylhydroxyanisol 58114-34-4
RL: USES (Uses)
(antioxidant, **lubricants** contg., environment-compatible and biol. decomposable)

IT 108-30-5D, Succinic anhydride, alkenyl derivs. 110-25-8, N-Oleoyl sarcosine 504-75-6D, Imidazoline, derivs. 1338-43-8, Sorbitan monooleate 30969-75-6, Oxazoline
RL: USES (Uses)
(corrosion inhibitor, **lubricants** contg., environment-compatible and biol. decomposable)

IT **69-72-7D**, derivs. 113-00-8D, Guanidine, derivs. 123-56-8D, Succinimide, polybutenyl derivs. 7664-38-2D, Phosphoric acid, polybutenyl derivs.
RL: USES (Uses)
(detergent-dispersant, **lubricants** contg., environment-compatible and biol. decomposable)

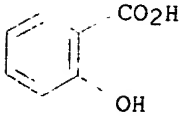
IT 111-20-6D, Decanedioic acid, esters 123-99-9D, Azelaic acid, esters 124-04-9D, Hexanedioic acid, esters
RL: USES (Uses)
(**lubricants** contg., environment-compatible and biol. decomposable)

IT 78-90-0D, Propylenediamine, **salicylated** 95-14-7, Benzotriazole 95-14-7D, Benzotriazole, derivs. 149-30-4, 2-Mercaptobenzothiazole 24931-45-1 29385-43-1, Tolyltriazole 29385-43-1D, Tolyltriazole, derivs.
RL: USES (Uses)
(metal passivator, **lubricants** contg., environment-compatible and biol. decomposable)

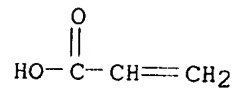
IT **79-10-7D**, **Acrylic** acid, esters, polymers 79-41-4D, esters, polymers 88-12-0D, polymers with **methacrylates**
RL: USES (Uses)
(viscosity improver, **lubricants** contg., environment-compatible and biol. decomposable)

IT **69-72-7D**, derivs.
RL: USES (Uses)
(detergent-dispersant, **lubricants** contg., environment-compatible and biol. decomposable)

RN 69-72-7 HCAPLUS
CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT **79-10-7D, Acrylic** acid, esters, polymers
RL: USES (Uses)
(viscosity improver, **lubricants** contg., environment-compatible and biol. decomposable)
RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:584551 HCAPLUS
DN 119:184551
TI Low calcium content lubricating compositions
IN Salomon, Mary F.; Davis, Kirk E.; Karn, Jack L.; Cahoon, John M.
PA Lubrizol Corp., USA
SO PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C10M163-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 5

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9218589 | A2 | 19921029 | WO 1992-US1578 | 19920227 |
| | W: AU, BR, CA, FI, JP, NO | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE | | | | |
| | CA 2085614 | AA | 19921020 | CA 1992-2085614 | 19920227 |
| | AU 9222338 | A1 | 19921117 | AU 1992-22338 | 19920227 |
| | AU 657988 | B2 | 19950330 | | |
| | EP 535221 | A1 | 19930407 | EP 1992-914141 | 19920227 |
| | EP 535221 | B1 | 19960131 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE | | | | |
| | BR 9205244 | A | 19930727 | BR 1992-5244 | 19920227 |
| | JP 05508188 | T2 | 19931118 | JP 1992-511703 | 19920227 |
| | AT 133702 | E | 19960215 | AT 1992-914141 | 19920227 |
| | ES 2085628 | T3 | 19960601 | ES 1992-914141 | 19920227 |
| | NO 9204807 | A | 19921211 | NO 1992-4807 | 19921211 |
| | US 5486300 | A | 19960123 | US 1994-278344 | 19940721 |
| | US 5614480 | A | 19970325 | US 1994-259374 | 19940725 |
| PRAI | US 1991-688195 | | 19910419 | | |
| | US 1991-690179 | | 19910419 | | |
| | WO 1992-US1578 | | 19920227 | | |
| | US 1992-884961 | | 19920515 | | |

AB The compns. comprise a major amt. of a lubricating **oil**, .gtoreq.1 overbased alkali metal salt of an org. acid, e.g., a carboxylate, sulfonate, phosphonate, or phenolate, providing .gtorsim. 0.005 equiv. alkali metal per 100 g compn., .gtorsim. 1.13 wt % dispersant(s), .gtoreq.1 metal dihydrocarbyl dithiophosphate, .gtoreq.1 antioxidant, provided that the compn. is free of Ca overbased sulfonate, or other Ca salts., and contains .ltorsim. 0.08 wt.% Ca, and the dithiophosphate and antioxidant are not the same. The compns. are used to lubricate spark-ignited or compression engines.
ST alkali metal basic carboxylate lubricant; dialkyl dithiophosphate lubricating compn; spark ignition engine lubricating compn; compression

engine lubricating compn; overbased sulfonate lubricating compn; phosphonate overbased compn; phenolate overbased lubricating compn; antioxidant dispersant lubricating compn

IT Lubricating **oils**
(compns. of, calcium-free, for spark ignition and compression engines)

IT Mannich bases
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)

IT Amines, uses
Esters, uses
RL: USES (Uses)
(dispersants, in calcium-free lubricating compns.)

IT Antioxidants
Dispersing agents
(lubricating compns. contg., calcium-free)

IT Amides, uses
RL: USES (Uses)
(of polyalkene carboxylates, dispersants, in calcium-free lubricating compns.)

IT Carboxylic acids, compounds
Phenols, compounds
RL: USES (Uses)
(alkali metal salts, overbased, lubricating compns. contg., calcium-free)

IT Sulfonic acids, compounds
RL: USES (Uses)
(alkali metal salts, overbased, lubricating compns. contg., calcium-free)

IT Polyamines
RL: USES (Uses)
(polyalkylene-, reaction products, with polyalkene carboxylates, dispersants, in calcium-free lubricating compns.)

IT Polyamines
RL: USES (Uses)
(polyethylene-, reaction products, with **acrylating** agents, dispersants, in calcium-free lubricating compns.)

IT Carboxylic acids, compounds
RL: USES (Uses)
(potassium salts, overbased, lubricating compns. contg., calcium-free)

IT Sulfonic acids, compounds
RL: USES (Uses)
(potassium salts, overbased, lubricating compns. contg., calcium-free)

IT Carboxylic acids, compounds
RL: USES (Uses)
(sodium salts, overbased, lubricating compns. contg., calcium-free)

IT Sulfonic acids, compounds
RL: USES (Uses)
(sodium salts, overbased, lubricating compns. contg., calcium-free)

IT 112-41-4D, 1-Dodecene, reaction products with C16-18-alkenes 26044-99-5D, sulfurized 137692-34-3 148301-39-7
RL: USES (Uses)
(antioxidant, in calcium-free lubricating compns.)

IT 108-95-2, Phenol, uses 108-95-2D, Phenol, trialkyl 15834-33-0D, Phosphorodithioic acid, dihydrocarbyl derivs.
RL: USES (Uses)
(antioxidants, in calcium-free lubricating compns.)

IT 110-15-6D, Succinic acid, polybutenyl derivs. reaction products with amines
RL: USES (Uses)
(dispersant, in calcium-free lubricating compns.)

IT **50-70-4**, D-Glucitol, uses 56-81-5, 1,2,3-Propanetriol, uses 77-86-1D, esters with polyalkylene 77-99-6D, esters with polyalkylene 107-21-1D, 1,2-Ethanediol, esters with polyalkylene 115-77-5D, Pentaerythritol, esters with polyalkylene
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)

IT 56-18-8D, reaction products with polybutenated succinic acid 110-15-6D, Succinic acid, polyalkene derivs., reaction products with amines 111-40-0D, Diethylenetriamine, reaction products with polybuteneated succinic acid 115-77-5D, reaction products with polybutenated succinic acid 124-09-4D, 1,6-Hexanediamine, reaction products with polybutenated succinic acid 4067-16-7D, Pentaethylenehexamine, reaction products with polybutenated succinic acid 4097-89-6D, Tris(2-aminoethyl)amine, reaction products with polybutenated succinic acid 6528-88-7 7663-77-6D, reaction products with polybuteneated succinic acid
RL: USES (Uses)
(dispersants, in calcium-free lubricating compns.)

IT 98-11-3D, Benzenesulfonic acid, alkyl derivs., reaction products with polybutenated succinic anhydride, sodium alts, overbased 13598-36-2D, Phosphonic acid, alkali metal salts, overbased
RL: USES (Uses)
(lubricating compns. contg., calcium free)

IT 108-30-5D, Succinic anhydride, polybutenyl derivs. sodium salt, overbased 15834-33-0D, Phosphorodithioic acid, esters, complexes 15834-33-0D, Phosphorodithioic acid, esters, zinc complexes 19028-33-2D, overbased 61447-13-0D, overbased
RL: USES (Uses)
(lubricating compns. contg., calcium-free)

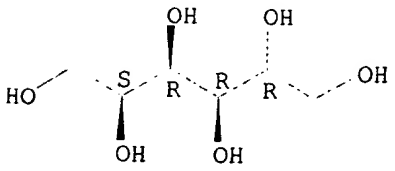
IT 148196-22-9D, zinc complexes
RL: USES (Uses)
(lubricating compns. contg., calcium-free, for oxidn. and wear resistance)

IT 90093-38-2, Super filtrol
RL: USES (Uses)
(sulfurization promoter for antioxidant for calcium-free lubricating compns.)

IT **50-70-4**, D-Glucitol, uses
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)

RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L53 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:476151 HCAPLUS
DN 119:76151
TI Lubricating oils for U-shaped press used in steel pipes manufacturing
IN Kato, Yoshio; Moribe, Kenji
PA Sumitomo Metal Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.

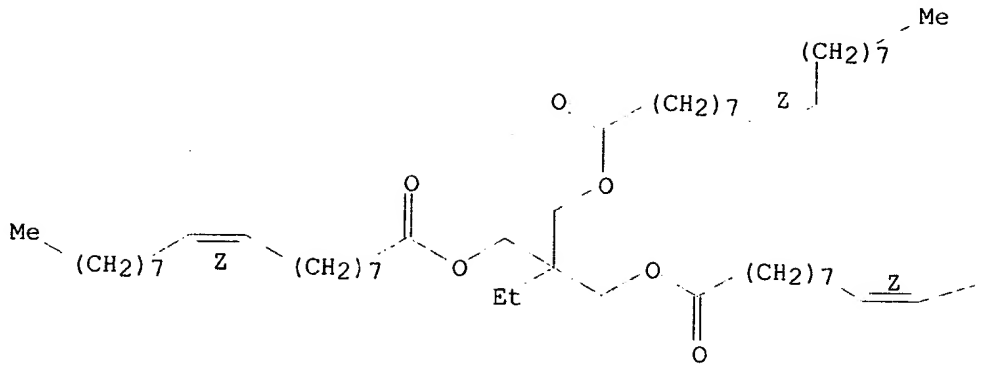
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICS B21C037-08; B21J003-00
ICI C10M169-04, C10M105-36, C10M105-38, C10M135-22, C10M143-06, C10M145-14; C10N030-02, C10N030-06, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 05043887 | A2 | 19930223 | JP 1991-200784 | 19910809 |

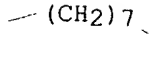
AB The title **lubricating** oils comprise 1-3 wt.% of an extreme-pressure **additive**, .ltoreq.3 wt.% of a viscosity-index improver, and the balance as a synthetic ester base oil. Thus, a di-tert-dodecyl polysulfide 1, polybutene 3, and a trimethylolpropane trioleate ester 96 wt.% were blended to form a stable **lubricating** oil for U-shaped press.
ST steel rolling lubricating oil polybutene; trimethylolpropane trioleate ester lubricating oil
IT Polysulfides
RL: USES (Uses)
(di-tert-dodecyl, extreme-pressure **additive**, for **lubricating** oils, for U-shaped press used in steel pipes manufg.)
IT **Lubricating** oil **additives**
(extreme-pressure, alkyl polysulfides, for U-shaped press used in steel pipes manufg.)
IT **Lubricating** oil **additives**
(viscosity improvers, polybutene, for U-shaped press used in steel pipes manufg.)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: USES (Uses)
(lubricating base oil, for U-shaped press used in steel pipes manufg.)
IT 9003-28-5, Polybutene
RL: USES (Uses)
(viscosity-index improver, for lubricating oils, for U-shaped press used in steel pipes manufg.)
IT **57675-44-2**, Trimethylolpropane trioleate
RL: USES (Uses)
(lubricating base oil, for U-shaped press used in steel pipes manufg.)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:554337 HCAPLUS
DN 117:154337
TI Cold-rolling oils for stainless steel plates
IN Inoue, Yasumasa; Michitani, Noboru; Tsukamoto, Tetsuya; Mori, Ikuo; Ikeda, Toshikazu
PA Nippon Quaker Chemical, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M137-08
ICS C10M169-04
ICI C10M169-04, C10M105-38, C10M137-08; C10N020-02, C10N030-06, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 04117495 | A2 | 19920417 | JP 1990-236812 | 19900905 |
| | JP 07086200 | B4 | 19950920 | | |

AB The rolling oil compn. comprises 100 synthetic **lubricating** oil having 40.degree. viscosity >80 cSt (e.g., pentaerythritol trioleate) and

0.2-5 wt. parts **additives** contg. arom. amine salts of org. acidic phosphoric acid esters. A suitable **additive** is prepd. by reacting phosphoric acid with butanol followed by neutralizing with 4-octyldiphenylamine.

ST **lubricating** rolling oil synthetic ester; amine ester **additive** rolling oil

IT **Lubricating** oil **additives**
(contg. arom. amine salts of phosphoric acid esters, for cold rolling of steel plates)

IT Lubricating oils
(cold-rolling, for stainless steel plates, compns. for)

IT 86-25-9D, Octyldiphenylamine, reaction products with ester of phosphoric acid and butanol 12645-53-3D, reaction products with octyldiphenylamine 12788-93-1D, reaction products with octyldiphenylamine 15383-23-0D, reaction products with ester of phosphoric acid and isooctyl alc.
RL: USES (Uses)
(additives, for rolling oils)

IT 12597-68-1
RL: USES (Uses)
(lubricating oils, cold-rolling, for stainless steel plates, compns. for)

IT 39874-62-9, Pentaerythritol trioleate **57675-44-2**, Trimethylolpropane trioleate
RL: USES (Uses)
(synthetic lubricating oil, for cold rolling)

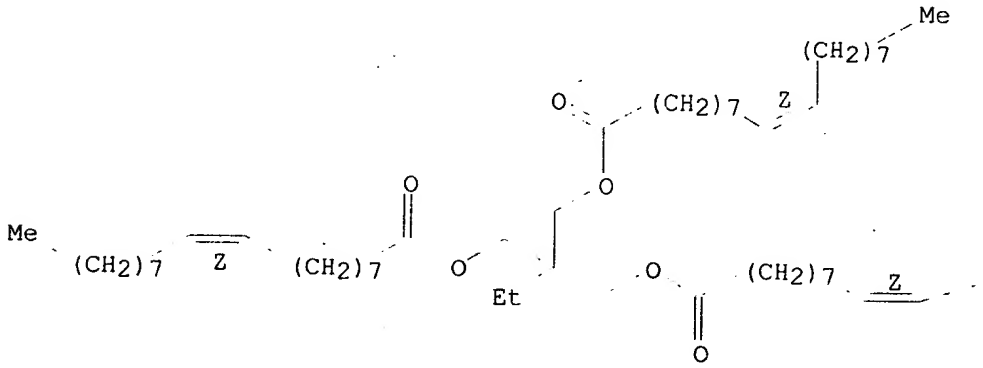
IT **57675-44-2**, Trimethylolpropane trioleate
RL: USES (Uses)
(synthetic lubricating oil, for cold rolling)

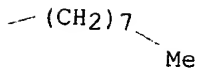
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:258914 HCAPLUS
DN 116:258914
TI Antiemulsion/antifoam agent for use in **oils**
IN Galic, Mary; Jolley, Scott T.; Salomon, Mary F.
PA Lubrizol Corp., USA
SO U.S., 14 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10M001-20
NCL 252-52A
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5084197 | A | 19920128 | US 1990-586469 | 19900921 |
| | US 5198135 | A | 19930330 | US 1991-740694 | 19910806 |
| | CA 2051495 | AA | 19920322 | CA 1991-2051495 | 19910916 |
| | AU 9184567 | A1 | 19920326 | AU 1991-84567 | 19910918 |
| | AU 646689 | B2 | 19940303 | | |
| | JP 05194978 | A2 | 19930803 | JP 1991-238416 | 19910918 |
| | NO 9103691 | A | 19920323 | NO 1991-3691 | 19910919 |
| | FI 9104430 | A | 19920322 | FI 1991-4430 | 19910920 |
| | EP 482759 | A1 | 19920429 | EP 1991-308591 | 19910920 |
| | EP 482759 | B1 | 19960327 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| | BR 9104109 | A | 19920602 | BR 1991-4109 | 19910920 |
| | AT 136053 | E | 19960415 | AT 1991-308591 | 19910920 |
| | ES 2087974 | T3 | 19960801 | ES 1991-308591 | 19910920 |
| PRAI | US 1990-586469 | | 19900921 | | |

AB A crankcase **lubricating oil** comprises (A) a polymer having the formula HO(CH2CH2CH2CH2O)nH as an antiemulsion agent, where n = 10-50; and .gtoreq.1 of (B) to (E): (B) .gtoreq.1 of a Na, Ca, or Mg detergent, (C) a dispersant, (D) a zinc dialkyldithiophosphate, (E) a viscosity improver, and (F) an antioxidant. Suitable butylene oxide-contg. polymers include propylene oxide-tetrahydrofuran copolymer and Terathane 2000.
ST antiemulsion antifoam engine **lubricating oil**; polypropylene oxide antiemulsion engine **oil**; propylene oxide THF antiemulsion engine **oil**
IT **Lubricating oil additives**
(antiemulsion-antifoam, butylene oxide-contg. polymers as, for engines)

IT 25190-06-1, Terathane 25302-85-6, Propylene oxide-THF polymer
RL: USES (Uses)
(antiemulsion agent, for crankcase **lubricating oils**
)

IT 98-11-3D, Benzenesulfonic acid, alkyl derivs., overbased, sodium salts
RL: USES (Uses)
(detergents, with polybutylene oxide as antiemulsion-antifoam agent, for engine **oils**)

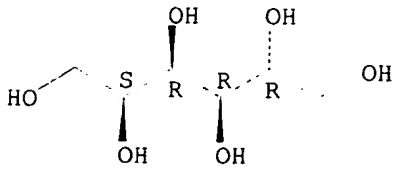
IT 50-00-0D, Formaldehyde, reaction products with polypropyl-substituted phenol and dimethylamine **50-70-4D**, D-Glucitol, esters with chlorinated polyisobutylene-**acrylic** acid adducts **79-10-7D**, 2-Propenoic acid, reaction products with chlorinated polyisobutylene, esters 108-30-5D, polyisobutenyl derivs., reaction products with tetraethylenepentamine, (esters) 108-95-2D, Phenol, polypropyl-substituted, reaction products with dimethylamine and formaldehyde 111-40-0D, reaction products with isostearic acid 111-96-6D, Diethylene glycol dimethylether, esters with chlorinated polyisobutylene-**acrylic** acid adducts and pentaerythritol 112-57-2D, reaction products with chlorinated polyisobutene 115-77-5D, esters with chlorinated polyisobutylene-**acrylic** acid adducts 124-40-3D, Dimethylamine, reaction products with polypropyl-substituted phenol and formaldehyde 126-30-7D, esters with polyisobutene-substituted succinic anhydride 9003-27-4D, Polyisobutene, chlorinated, reaction products with tetraethylenepentamine 30399-84-9D, Isostearic acid, reaction products with diethylenetriamine
RL: USES (Uses)
(dispersants, with butylene oxide-contg. polymers as antiemulsion-antifoam agent, for engine **oils**)

IT 15834-33-0D, Phosphorodithioic acid, dialkyl esters, zinc salts 36878-20-3
RL: USES (Uses)
(**lubricating oils** contg., with polybutylene oxide as antiemulsion antifoam agent, for engines)

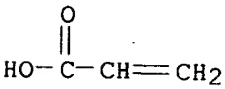
IT **50-70-4D**, D-Glucitol, esters with chlorinated polyisobutylene-**acrylic** acid adducts **79-10-7D**, 2-Propenoic acid, reaction products with chlorinated polyisobutylene, esters
RL: USES (Uses)
(dispersants, with butylene oxide-contg. polymers as antiemulsion-antifoam agent, for engine **oils**)

RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



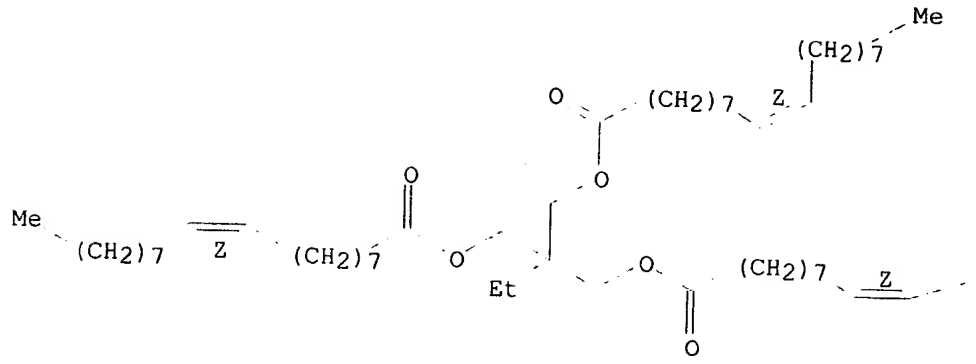
L53 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:615200 HCAPLUS
DN 113:215200
TI Lubricating oils for plunger tips used in aluminum casting
IN Kanda, Noboru; Kojika, Noboru; Kikuchi, Shingo
PA Yushiro Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M111-02
ICI C10M111-02, C10M101-02, C10M103-06, C10M101-04, C10M105-32; C10N020-02, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 02215894 | A2 | 19900828 | JP 1989-36034 | 19890217 |
| | JP 06076587 | B4 | 19940928 | | |

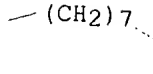
AB The title lubricating oils are prepd. by blending a mineral base oil with 5-30 wt.% of fats or fatty esters and 2-30 wt.% of talc or fluorinated graphite to obtain a mixt. with kinematic viscosity (.mu.) 250-500 mm2/s at 40.degree.. Thus, a mineral base oil 80, Unistar-H381 (a fatty ester) 10, talc 5, and montmorillonite 5 wt.% were blended to form a lubricating oil (.mu. 340 mm2/s at 40.degree.), which was then subjected to the Abrasion test at 200.degree., resulting in a friction coeff. of 0.065, vs. 0.070 for a com. lubricating oil.
ST lubricating oil plunger tip talc; fluorinated graphite montmorillonite lubricating oil; fatty ester bentonite graphite lubricating
IT **Lubricating** oil **additives**
(thickeners, montmorillonite or polyisobutene, for plunger tips)
IT 1344-28-1, Alumina, uses and miscellaneous
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(casting of, plunger tips in, lubricating oils for)
IT 14807-96-6, Talc, uses and miscellaneous
RL: USES (Uses)
(lubricating oils contg. fatty ester and, for plunger tips)
IT 7782-42-5D, Graphite, fluorinated
RL: USES (Uses)
(lubricating oils contg. fatty esters and, for plunger tips)
IT **57675-44-2**
RL: USES (Uses)
(lubricating oils contg. talc and, for plunger tips)
IT 1318-93-0, Montmorillonite, uses and miscellaneous 9003-27-4, Polyisobutene
RL: USES (Uses)
(thickener, for lubricating oils, for plunger tips)
IT **57675-44-2**
RL: USES (Uses)
(lubricating oils contg. talc and, for plunger tips)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:535546 HCAPLUS
DN 113:135546
TI Metalworking lubricating oil compositions for drawing and ironing cans
IN Okamoto, Yoshio; Inaba, Takashi; Mukai, Takashi
PA Kao Corp., Japan; Kobe Steel, Ltd.
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICI C10M169-04, C10M101-02, C10M105-12, C10M105-34, C10M105-38, C10M149-02, C10M149-06, C10M153-02, C10M125-24; C10N020-02, C10N020-06, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 02117993 | A2 | 19900502 | JP 1988-270239 | 19881026 |

AB The title compns. comprise (a) .gtoreq.1 lubricating base oils chosen from mineral oils (viscosity 50-500 cSt at 40.degree.), C10-40-aliph. alcs., and C8-22 fatty acid esters with monovalent or polyhydric alcs., and (b) water-sol. (in)org. phosphates of (co)polymers of CH2CR1COA(CH2)mNR2R3

(R1, R2 and R3 are independently C1-3 alkyl, A = O or NH, m is 1-3) (av. particle size 3-10 .mu.m in water).

ST lubricating oil drawing ironing can; fatty acid ester metal working lubricant; alc can drawing ironing lubricant; **polymethacrylate** phosphate can lubricating oil

IT Lubricating oils
(metalworking, contg. **polymethacrylate** phosphates, for drawing and ironing cans)

IT 111-46-6D, esters with dimer acids 112-53-8, 1-Dodecanol 112-92-5D, 1-Octadecanol, esters with dimer acids 17673-50-6, Oleyl stearate 18641-58-2 26266-58-0, Sorbitan trioleate 27178-16-1, Diisodecyl adipate **57675-44-2**, Trimethylolpropanetrioleate 94749-98-1 129380-59-2 129380-61-6 129380-63-8 129380-64-9 129380-65-0
RL: USES (Uses)
(lubricating oils contg., for drawing and ironing cans)

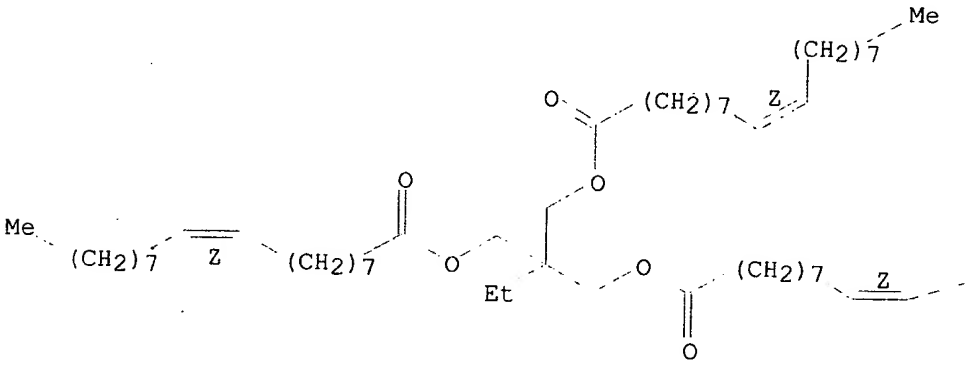
IT **57675-44-2**, Trimethylolpropanetrioleate
RL: USES (Uses)
(lubricating oils contg., for drawing and ironing cans)

RN 57675-44-2 HCAPLUS

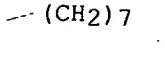
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:118122 HCAPLUS
DN 110:118122
TI Two-cycle engine **oils** and/or fuel mixtures containing sulfurized alkylphenols and method for **lubricating** two-cycle engines
IN Davis, Kirk E.; Ward, William C., Jr.
PA Lubrizol Corp., USA
SO U.S., 19 pp. Cont.-in-part of U. S. 4,708,809.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10M135-10
ICS C10M141-08
NCL 252033400
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4740321 | A | 19880426 | US 1986-850315 | 19860410 |
| | US 4708809 | A | 19871124 | US 1982-385990 | 19820607 |
| | FR 2528065 | A1 | 19831209 | FR 1983-8387 | 19830520 |
| | FR 2528065 | B1 | 19871127 | | |
| | CA 1192539 | A1 | 19850827 | CA 1983-429246 | 19830530 |
| | JP 59011395 | A2 | 19840120 | JP 1983-100707 | 19830606 |
| | JP 04056875 | B4 | 19920909 | | |
| | GB 2121432 | A1 | 19831221 | GB 1983-15550 | 19830607 |
| | GB 2121432 | B2 | 19860102 | | |
| PRAI | US 1982-385990 | | 19820607 | | |

AB **Lubricating oil** compns. for 2-cycle engines contain a minor amt., sufficient to control piston ring sticking and promote general engine cleanliness, of >1 phenolic compds. of the general formula RaAr(OH)b or their salts, where R is C>10 alkyl, a and b are independently an integer of 1-3 times the no. of arom. nuclei present in Ar provided that the sum of a and b does not exceed the unsatisfied valences of Ar, and Ar is a linked polynuclear moiety wherein the bridging linkages are S-contg. moieties, having 0-3 optional substituents consisting of lower alkyl, lower alkoxyl, methylol or lower hydrocarbon-based substituted methylol, halo, and combinations of .gtoreq.2 of the substituents. In a preferred embodiment, the detergents-dispersants **additives** (e.g., overbased Ca sulfonates) are present in the **lubricating** compns. An example of the phenolic compd. is the reaction product of PhOH, propylene tetramer, and SCl2.
ST engine two cycle **lubricating oil**; detergent dispersant sulfurized alkylated phenol; overbased calcium sulfonate engine **oil**; alkylphenol sulfurized **lubricating oil** engine
IT **Lubricating oil additives**
(detergents-dispersants, contg. sulfurized alkylphenols and, for two-cycle engines)
IT 50-00-0D, Formaldehyde, reaction products with polypropyl-substituted phenol and dimethylamine **50-70-4D**, D-Glucitol, reaction products with chlorinated polyisobutylene and **acrylic** acid **79-10-7D**, 2-Propenoic acid, reaction products with chlorinated polyisobutylene and **sorbitol** or pentaerythritol 108-30-5D, Succinic anhydride, polyisobutenyl derivs., reaction products with polyamines and/or acids or alcs. 111-40-0D, reaction products with isostearic acid 112-57-2D, Tetraethylenepentamine, reaction products with chlorinated polyisobutene or polyisobutenylsuccinic anhydride and isostearic acid 115-77-5D, Pentaerythritol, esters with polyisobutene-derived carboxylic acids 124-40-3D, Dimethylamine,

reaction products with polypropyl-substituted phenol and formaldehyde 126-30-7D, reaction products with chlorinated polyisobutene and maleic anhydride 1304-28-5D, Barium oxide, reaction products with polyisobutenylsuccinic anhydride 9003-27-4D, Polyisobutene, chloro derivs., reaction products with polyamines or **acrylic** acid-alc. condensation products 30399-84-9D, Isostearic acid, reaction products with polyisobutenylsuccinic anhydride and tetraethylenepentamine
RL: USES (Uses)
(detergents-dispersants, for two-cycle engine **oils**)

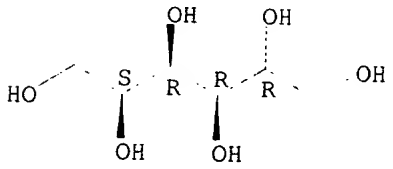
IT 80-05-7D, poly butenylpropenyl derivs. 90-15-3D, 1-Naphthalenol, Polyisobutenyl derivs. 92-88-6D, [1,1'-Biphenyl]-4,4'-diol, polyisobutenyl derivs. 109-00-2D, 3-Pyridinol, Polyisobutenyl derivs. 148-24-3D, 8-Quinolinol, polypropenyl derivs. 21093-23-2 87098-14-4
RL: USES (Uses)
(**lubricating oil additive**, for two-cycle engines)

IT 108-95-2D, Phenol, polyisobutenyl derivs. 1305-62-0D, Calcium hydroxide, reaction products with phenol, propylene tetramer, and sulfur dichloride 6842-15-5D, Propylene tetramer, reaction products with phenol and/or sulfur dichloride and/or calcium hydroxide 10545-99-0D, Sulfur dichloride, reaction products with phenol and propylene tetramer and/or calcium hydroxide
RL: USES (Uses)
(**lubricating oil additives**, for two-cycle engines)

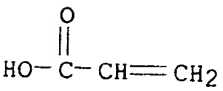
IT **50-70-4D**, D-Glucitol, reaction products with chlorinated polyisobutylene and **acrylic** acid **79-10-7D**, 2-Propenoic acid, reaction products with chlorinated polyisobutylene and **sorbitol** or pentaerythritol
RL: USES (Uses)
(detergents-dispersants, for two-cycle engine **oils**)

RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)




L53 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:531942 HCAPLUS
DN 109:131942
TI Lubricating oil compositions for processing of metal cans
IN Okamoto, Yoshio; Inaba, Takashi; Mukai, Takashi; Hamai, Toshimasa
PA Kao Corp., Japan; Kobe Steel, Ltd.

SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M173-00
ICI C10M173-00, C10M149-04, C10M149-06, C10M149-10, C10M149-12, C10M149-22, C10M145-40, C10M151-02; C10N030-00, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 63095295 | A2 | 19880426 | JP 1986-240249 | 19861009 |
| | JP 03013280 | B4 | 19910222 | | |

AB The title **lubricating** oils are prepd. by mixing >1 base oil (e.g., mineral oils, fatty acids, esters or alcs.) with 0.1-20 wt.% of a dispersant-extreme pressure **additive** contg. water-sol. polymers selected from the following groups (a) a monopolymer of N-contg. compds. or its salts such as CH2(:C)R1COOCH2CHOHCH2NR2R3 (R1 = H or Me; R2 and R3 = H or C1-3 alkyl), or CH2(:C)R1COO(CH2CH2O)m(CH2)nNR2R3 (m and n = 1-3; R1, R2, and R3 are defined as above); (b) a copolymer of .gtoreq.1 vinyl-group monomers (e.g., acrylonitrile, pyrrolidone or C2-20 fatty olefins) with .gtoreq.1 N-contg. monomers from (a); (c) an ethyleneimine polymer salt, quaternary ammonium salt or its derivs.; (d) a fatty dicarboxylic acid-polyethylenepolyamine or polyoxyethylenealkylamine polymer salt or quaternary ammonium salt; (e) dihaloalkane-polyalkylenepolyamine condensates; (f) epihalohydrin-amine condensates; (g) starch or cellulose derivs.; and (h) polyether polyols or polyol polyethers (mol. wt. 5000-600,000) from the adducts of polyalkylimines (contg. 6-200 N atoms) with alkylene oxides. Thus, a mineral oil (viscosity 180 cSt at 40.degree.) 87.5, trimethylolpropanetrioleate 10, **diethylaminomethylmethacrylate** polymer phosphoric acid salt (mol. wt. 300,000) 0.5, 2,4-di-tert-butyl-p-cresol 1, and triphenylphosphate 1 wt.% were blended to form a **lubricating** oil, which was then subjected to the four-ball **antiwear** test, resulting in a load resistance of 6.5 kg/cm2, vs. 3.0 kg/cm2 for a com. **lubricating** oil.

ST lubricating oil metal can processing; **diethylaminomethylmethacrylate** polymer phosphate lubricating oil; trimethylolpropane trioleate lubricating oil; extreme pressure dispersant lubricating oil**

IT ***Lubricating** oil **additives**
(extreme-pressure, dispersants, **dialkylaminomethylmethacrylate** polymer salts or quaternary ammonium salts, for processing of metal cans)

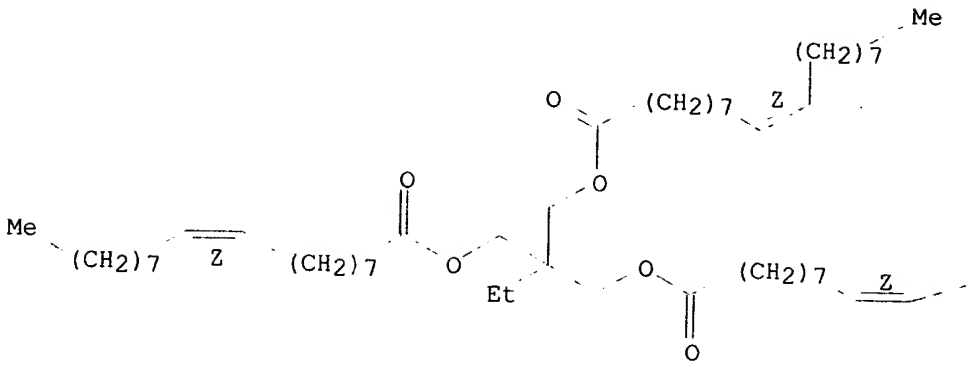
IT 115-86-6, Triphenyl phosphate 544-63-8D, Myristic acid, reaction products with polyethyleneimine, ethylphosphinic acid salt 9002-98-6D, reaction products with myristic acid, ethylphosphinic acid salt 29997-25-9 **57675-44-2**, Trimethylolpropanetrioleate 91365-66-1 91380-05-1 91380-06-2 95243-11-1 95243-19-9
RL: USES (Uses)
(lubricating oil compns. contg., for processing of metal cans)

IT **57675-44-2**, Trimethylolpropanetrioleate
RL: USES (Uses)
(lubricating oil compns. contg., for processing of metal cans)

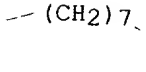
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:105239 HCAPLUS
DN 106:105239
TI Esters of unsaturated polymerizable carboxylic acids for preparation of **oil**-soluble polymers as pour-point depressants
IN Ritter, Wolfgang; Zoellner, Wolfgang
PA Henkel K.-G.a.A., Fed. Rep. Ger.
SO Ger. Offen., 26 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07C069-54
ICS C07C067-08; C08F020-26; C08F022-20; C08L033-14; C08L035-00; C10L001-18; C10M145-10
CC 51-9 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 35
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 3513356 | A1 | 19861016 | DE 1985-3513356 | 19850415 |
| | DE 3513356 | C2 | 19930923 | | |
| | US 4762946 | A | 19880809 | US 1986-851981 | 19860414 |
| | US 4906702 | A | 19900306 | US 1988-187183 | 19880428 |

PRAI DE 1985-3513356 19850415
US 1986-851981 19860414

AB Unsatd. esters R1CO(OZCO)nOR (R1 = C2-5 alkenyl; R = satd. or unsatd. C10-24 hydrocarbyl; OZCO = residue of OH-contg. C2-6 carboxylic acid; n = 1-18) are prepd. and polymd. to prep. homo- and copolymers which are useful as pour-point depressants in paraffin- and/or wax-contg. **oils**. Thus, 1 mol tallow alc. and 1 mol Et lactate were used to prep. an ester having OH no. 176.9 and acid no. 0.3. The ester (0.3 mol) was esterified with 0.3 mol **methacrylic** acid in the presence of 1% **hydroquinone**, 5% p-toluenesulfonic acid, and 200 ppm phenothiazine in boiling toluene. The **methacrylate** ester was polymd. in toluene in the presence of AIBN. Adding the polymer (100 ppm) to a mixt of 85 parts naphtha (b. 145-200.degree.) and 15 parts paraffin wax (softening point 46-48.degree.) reduced the pour point of the mixt. by 11.degree..

ST polyester **methacrylate** prepn polymn; tallow alc lactate **methacrylate** polymer; **polymethacrylate** pour point depressant; hydrocarbon pour point depressant; **oil** pour point depressant

IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(**methacrylates**, polymers, as pour-point depressants)

IT Polymerization
(of **methacrylate** esters of poly(hydroxyalkanoic acid) alkyl esters)

IT Esterification
(of **methacrylic** acid with poly(hydroxyalkanoic acid) alkyl esters)

IT Pour-point depressants
(polymers of esters of fatty alcs., hydroxycarboxylic acids, and unsatd. carboxylic acids as)

IT **Lubricating oil additives**
(pour-point depressants, polymers of esters of fatty alcs., hydroxycarboxylic acids, and unsatd. carboxylic acids as)

IT 661-19-8, Behenyl alcohol
RL: RCT (Reactant)
(esterification of, with lactide)

IT 107070-31-5DP, tallow alkyl esters, polymers 107070-37-1DP, tallow alkyl esters, polymers 107120-11-6DP, tallow alkyl esters, polymers
RL: PREP (Preparation)
(manuf. of, as pour-point depressant)

IT 42175-34-8P 107070-28-0P
RL: PREP (Preparation)
(prepn. and esterification with **methacrylic** acid)

IT 107049-41-2P 107049-42-3P 107120-07-0P 107120-09-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification with unsatd. carboxylic acid)

IT 79-39-0DP, Methacrylamide, polymers with esters of **methacrylic** acid, hydroxycarboxylic acid, and fatty alcs. 6852-91-1DP, tallow alkyl esters, polymers
RL: PREP (Preparation)
(prepn. of, as pour-point depressant)

IT 79-14-1DP, esters with tallow alcs. and **methacrylic** acid
95-96-5DP, esters with fatty alcs. and **methacrylic** acid
97-64-3DP, Ethyl lactate, esters with tallow alcs. and **methacrylic** acid 107070-29-1P 107070-30-4P
RL: PREP (Preparation)
(prepn. of, for polymn. as pour-point depressant)

IT 79-41-4DP, **Methacrylic** acid, esters with hydroxycarboxylic acids and fatty acids 107049-39-8P 107049-40-1P 107120-08-1P

107120-10-5P
RL: PREP (Preparation)
(prepn. of, for polymn. as pour-point depressants)

L53 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:556020 HCAPLUS
DN 105:156020
TI Mist lubrication
IN Zehler, Eugene R.; Flake, Clark J.
PA National Distillers and Chemical Corp., USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10M107-20
ICS C10M107-32
NCL 252-56S
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4601840 | A | 19860722 | US 1985-747462 | 19850621 |
| | AU 8658747 | A1 | 19861224 | AU 1986-58747 | 19860616 |
| | CA 1279060 | A1 | 19910115 | CA 1986-511801 | 19860618 |
| | ES 556225 | A1 | 19880501 | ES 1986-556225 | 19860619 |
| | JP 61296091 | A2 | 19861226 | JP 1986-143091 | 19860620 |
| | JP 07068536 | B4 | 19950726 | | |
| | EP 206280 | A2 | 19861230 | EP 1986-108427 | 19860620 |
| | EP 206280 | A3 | 19871014 | | |
| | R: DE, FR, GB, IT, NL, SE | | | | |
| | BR 8602881 | A | 19870217 | BR 1986-2881 | 19860620 |
| PRAI | US 1985-747462 | | 19850621 | | |
| | US 1985-747463 | | 19850621 | | |

AB Mist **lubricating** oils (i.e., for generation of a mist to be deposited on a metal surface) contain a synthetic ester (viscosity 15-300 cSt at 40.degree.) 45-95, low mol.-wt. polyisobutene (I, av. mol. wt. 4000-10,000) 8-40, and high mol. wt. I (av. mol. wt. 25,000-300,000) 0.1-1 wt. part. The esters are selected from (1) esters derived from C3-12-aliph. polyols (with 2-8 OH groups) and C5-20-fatty acids, (2) C8-16-alkyl trimellitates, and (3) esters derived from C1-13-alcs. and a polymeric fatty acid contg. .gtoreq.75% C36-dimer acids. Thus, 27.5 wt. parts low mol. wt. I (mol. wt. 7573) and 0.33 wt. parts high mol. wt. I (mol. wt. 89,793) were dissolved in inert hydrocarbons, blended with 63.1 wt. parts fatty acid dimer di-2-ethylhexyl esters (91 cSt at 40.degree., acid value <3, hydroxyl value .ltoreq.2) at 90.degree., cooled to .apprx.60.degree., and mixed with 3.5 wt. parts com. ashless multipurpose gear oil **additive**. The oil was applied to a hot strip mill for **lubrication** of bearings after being misted in air at 70-80 psig and 170-200.degree.F. Excellent misting, no restriction or clogging of reclassifier heads, and increased performances were obsd. in comparison with com. available mineral oil mist **lubricants**.

ST mist lubricating oil ester polyisobutene; polyol ester mist lubricating oil; trimellitate ester mist lubricating oil; fatty acid dimer ester lubricant

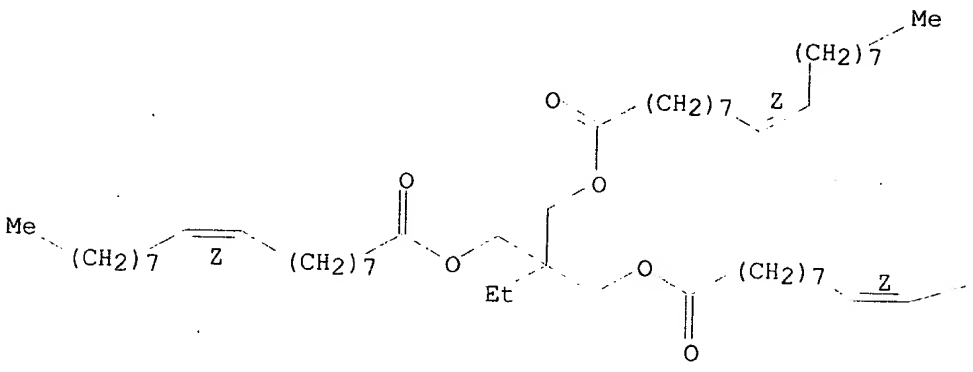
IT Lubricating oils
(mist, contg. synthetic esters and polyisobutylene)

IT Fatty acids, polymers
RL: USES (Uses)
(C18-unsatd., dimers, di-2-ethylhexyl or diisodecyl esters, mist lubricating oils contg. polyisobutene and)

IT Fatty acids, esters
RL: USES (Uses)
(C5-20, esters with C3-12-aliph. polyols, mist lubricating oils contg. polyisobutene and)
IT 9003-27-4
RL: USES (Uses)
(mist lubricating oils contg. esters and)
IT 52276-62-7 **57675-44-2** 68541-50-4 104558-82-9
RL: USES (Uses)
(mist lubricating oils contg. polyisobutylenes and)
IT **57675-44-2**
RL: USES (Uses)
(mist lubricating oils contg. polyisobutylenes and)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B

(CH2)7
Me

L53 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:108990 HCAPLUS
DN 104:108990
TI Synthesis and physicochemical properties of organofluorine esters of **acrylic**, **methacrylic**, and maleic acids

AU Gol'din, G. S.; Averbakh, K. O.; Nekrasova, L. A.; Lavygin, I. A.; Leitan, O. V.; Chalbysheva, N. V.
CS Gos. Nauchno-Issled. Inst. Khim. Tekhnol. Elementoorg. Soedin., USSR
SO Zh. Prikl. Khim. (Leningrad) (1985), 58(6), 1349-53
CODEN: ZPKHAB; ISSN: 0044-4618
DT Journal
LA Russian
CC 23-17 (Aliphatic Compounds)
Section cross-reference(s): 22, 39, 51
OS CASREACT 104:108990
AB CH2:CRCO2CH2(CF2)nH (R = H, Me; n = 2, 4, 6) and cis-H(CF2)nCH2O2CCH:CHCO2CH2(CF2)nH (same n) were prepd. by direct esterification in refluxing C6H6 or PhMe contg. H2SO4, sulfonated coal and **hydroquinone**, or from CH2:CMeCOCl and H(CF2)4CH2OH. Their d., temp. coeff. of d., and viscosity increased, and their refractive index, surface tension and the temp. coeff. of the latter decreased with increasing n. The molar vol. and surface energy of the esters also increased with n, the coeffs. of the linear functions increasing linearly with temp.
ST polyfluoroalkyl **acrylate methacrylate** maleate prepn property; monomer fluorinated prepn property; **lubricant** additive prepn property
IT Molar volume and Molecular volume
Surface tension
(of polyfluoroalkyl **acrylates, methacrylates** and maleates, temp. dependence of)
IT Surface energy
(of polyfluoroalkyl **acrylates, methacrylates**, and maleates, temp. dependence of)
IT **Lubricating oil additives**
(polyfluoroalkyl **acrylates, methacrylates** and maleates, prepn. and properties of)
IT Monomers
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyfluoroalkyl **acrylates, methacrylates** and maleates, prepn. and properties of)
IT 355-93-1P 376-84-1P 2261-99-6P 2993-85-3P 7383-71-3P 60100-40-5P 63578-77-8P 63578-78-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicochem. properties of, temp. dependence of)

L53 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1984:574426 HCAPLUS
DN 101:174426
TI Lubricant suitable for use at high temperature
IN Seiki, Hiromichi
PA Idemitsu Kosan Co., Ltd., Japan
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C10M003-44; C10M003-20
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 3400769 | A1 | 19840719 | DE 1984-3400769 | 19840112 |
| | DE 3400769 | C2 | 19861218 | | |
| | JP 59129294 | A2 | 19840725 | JP 1983-4225 | 19830117 |
| | JP 03059956 | B4 | 19910912 | | |

| | | | | | |
|---|---|---|---|---|---|
| | US 4519927 | A | 19850528 | US 1983-566497 | 19831229 |
| | GB 2134922 | A1 | 19840822 | GB 1984-586 | 19840110 |
| | GB 2134922 | B2 | 19851113 | | |
| | FR 2539426 | A1 | 19840720 | FR 1984-665 | 19840117 |
| | FR 2539426 | B1 | 19870717 | | |
| PRAI | JP 1983-4225 | | 19830117 | | |

AB The title **lubricating** oil compn., for machining, contains 25-98% alkyl Ph silicone or alkyl alkylphenyl silicone, 10-30% hindered aliph. ester, and an **additive** package. Suitable silicones are MePh silicone or hexyl 4-propylphenyl silicone; hindered esters include trimethylolpropane and pentaerythritol esters of oleic acid, adipic acid, and stearic acid.

ST high temp silicone lubricating oil; methyl phenyl silicone lubricating oil; hexyl propylphenyl silicone lubricating oil; trimethylolpropane ester lubricating oil; pentaerythritol ester lubricating oil

IT Lubricating oils
(for machining, high-temp., contg. alkyl aryl silicones and hindered esters)

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(hexyl propylphenyl, high-temp. machining lubricating oils contg.)

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(Me Ph, high-temp. machining lubricating oils contg.)

IT 77-99-6D, esters with adipic acid and stearic acid 115-77-5D, esters with adipic acid and stearic acid **57675-44-2**
RL: USES (Uses)
(high-temp. machining lubricating oils contg.)

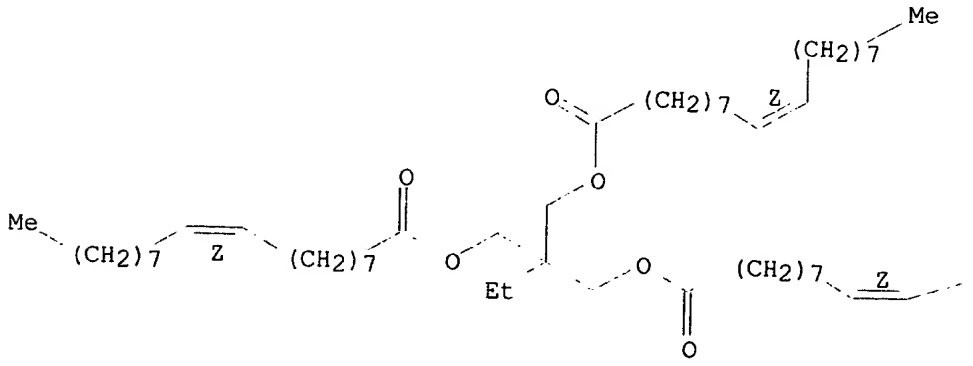
IT **57675-44-2**
RL: USES (Uses)
(high-temp. machining lubricating oils contg.)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



—(CH2)7
Me

L53 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1984:71066 HCAPLUS
DN 100:71066
TI **Lubricant** compositions, containing alkylphenols, for 2-stroke engines
IN Davis, Kirk Emerson
PA Lubrizol Corp. , USA
SO Ger. Offen., 81 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C10M001-20; C10M003-14
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 3320396 | A1 | 19831208 | DE 1983-3320396 | 19830606 |
| | DE 3320396 | C2 | 20000120 | | |
| | US 4708809 | A | 19871124 | US 1982-385990 | 19820607 |
| | FR 2528065 | A1 | 19831209 | FR 1983-8387 | 19830520 |
| | FR 2528065 | B1 | 19871127 | | |
| | CA 1192539 | A1 | 19850827 | CA 1983-429246 | 19830530 |
| | JP 59011395 | A2 | 19840120 | JP 1983-100707 | 19830606 |
| | JP 04056875 | B4 | 19920909 | | |
| | GB 2121432 | A1 | 19831221 | GB 1983-15550 | 19830607 |
| | GB 2121432 | B2 | 19860102 | | |
| PRAI | US 1982-385990 | | 19820607 | | |

AB **Lubricating oil** compns. for 2-stroke engines contain 4.5-15% of an alkylated phenol or its derivs. and 1.5-3% of a detergent-dispersant compn. Suitable alkylphenol compns. include polyisobutenylphenol, polypropylenephenol (or their bis(methylol) derivs.), and alkyl derivs. of dihydroxybiphenyl, resorcinol, .alpha.-naphthol, anthracenol, quinolinol, and hydroxypyridine. The detergents-dispersants include overbased alk. earth metal **additives**, Mannich bases, polyacid-polyamine condensation products, and polyacid-alc. condensation products (e.g., reaction products of polyisobutenylsuccinic anhydride with neopentyl glycol and pentaerythritol).
ST alkylphenol **lubricating oil** detergent dispersant; engine two stroke **lubricant**
IT Sulfonic acids, compounds
RL: USES (Uses)
(alk. earth salts, overbased, detergent dispersants, for two-stroke

engine **oils**)

IT **Lubricating oil additives**
(contg. alkylphenols and detergent dispersants, for two-stroke engines)

IT Mannich bases
RL: USES (Uses)
(**lubricating oil additives**, for two-stroke engines)

IT Phenols, uses and miscellaneous
RL: USES (Uses)
(alkyl, **lubricating oil additives**, for two-stroke engines)

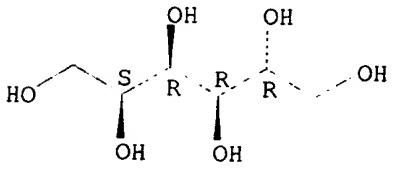
IT Amines, compounds
RL: USES (Uses)
(polyalkylenepoly-, reaction products with polyisobutenylsuccinic anhydride and isostearic acid, **lubricating oil additives**, for two-stroke engines)

IT 50-00-0D, reaction products with polyalkenylphenols **50-70-4D**, reaction products with **acrylic** acid and chlorinated polyisobutene **79-10-7D**, reaction products with chlorinated polyisobutene and **sorbitol** or pentaerythritol 90-15-3D, 4-polyisobutenyl derivs. 92-88-6D, 2,2'-bis(polyisobutenyl) derivs. 108-30-5D, polyisobutenyl derivs., reaction products with acids and alcs. or polyamines 108-95-2D, polyalkenyl derivs., reaction products with formaldehyde and amines 109-00-2D, 4-polyisobutenyl derivs. 111-40-0D, reaction products with isostearic acid 112-57-2D, reaction products with chlorinated polyisobutene 115-77-5D, mixed esters with polyisobutene-derived carboxylic acids 124-40-3D, reaction products with polypropenylphenol and formaldehyde 148-24-3D, polypropenyl derivs. 9002-98-6D, reaction products with polyisobutenylsuccinic anhydride 9003-27-4D, chloro derivs., reaction products with polyamines or **acrylic** acid-alc. condensation products 21093-23-2 30399-84-9D, reaction products with polyamines and polyisobutenylsuccinic anhydride 88707-55-5
RL: USES (Uses)
(**lubricating oil additives**, for two-stroke engines)

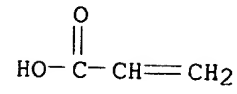
IT **50-70-4D**, reaction products with **acrylic** acid and chlorinated polyisobutene **79-10-7D**, reaction products with chlorinated polyisobutene and **sorbitol** or pentaerythritol
RL: USES (Uses)
(**lubricating oil additives**, for two-stroke engines)

RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1983:595551 HCAPLUS
DN 99:195551
TI Preparation of monomers for poly(alkyl **methacrylates**) used as **lubricating oil additives**
IN Baliu, Sotir; Crisan, Livia; Luca, Paula; Iordache, Gheorghe; Popescu, Stefan
PA Combinatul Petrochimic, Teleajen, Rom.
SO Rom., 3 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
IC C10M001-28
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): **51**
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | RO 71425 | B | 19830429 | RO 1977-90588 | 19770607 |

AB Viscosity-index improvers-pour-point depressants for engine **lubricating oils** are prepd. by conventional polymn. of monomers produced by a new rapid (4-6-h), stepped-injection technique for the transesterification of excess Me **methacrylate** (I) [80-62-6] with C6-20 alcs. (molar ratio 1.5-3.0:1) in the presence of H2SO4 (acid catalyst) and **hydroquinone** (polymn. inhibitor). Post-reaction isolation of the alc.-**methacrylate** esters is achieved (1) by neutralization on solid Na2CO3, in the case of C10-20 esters and (2) by distn. with 10-20% heavy mineral **oil**, followed by washing with aq. Na2CO3, in the case of C6-10 esters. Thus, 2-ethylhexanol [104-76-7] 130, H2SO4 2.6, and **hydroquinone** 0.7 g are refluxed at 130.degree. with 200 g I, added at 40 g/h, for 5 h with distn. of MeOH for a 95% yield of 2-ethylhexyl **methacrylate** [688-84-6], sepd. by isolation method 2 after vacuum distn. of excess I.
ST methyl **methacrylate** transesterification ethylhexanol; **methacrylate** ester viscosity index; **lubricant** additive **methacrylate** monomer; pour point depressant **methacrylate**
IT Transesterification
(of Me **methacrylate** with C6-20 alcs.)
IT Alcohols, reactions
RL: RCT (Reactant)
(C6-20, transesterification of, with Me **methacrylate**)
IT **Lubricating oil additives**
(pour-point depressants-viscosity index improvers, poly(alkyl **methacrylates**), prepn. of monomers for)
IT 497-19-8, uses and miscellaneous
RL: USES (Uses)
(in transesterification of Me **methacrylate** with C6-20 alcs.)
IT 688-84-6P
RL: PREP (Preparation)
(prepn. of, by transesterification of Me **methacrylate**)
IT 104-76-7
RL: RCT (Reactant)
(transesterification of, with Me **methacrylate**)

IT 80-62-6
RL: RCT (Reactant)
(transesterification of, with ethylhexanol)

L53 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1983:201191 HCAPLUS
DN 98:201191
TI Multicomponent composition for use in **lubricants**
IN Barrer, Daniel Edward
PA Lubrizol Corp. , USA
SO Ger. Offen., 71 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C10M001-26; B01F017-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 3232028 | A1 | 19830324 | DE 1982-3232028 | 19820827 |
| | FR 2512458 | A1 | 19830311 | FR 1982-14645 | 19820826 |
| | FR 2512458 | B3 | 19841214 | | |
| | CA 1183125 | A1 | 19850226 | CA 1982-410414 | 19820830 |
| | GB 2105743 | A1 | 19830330 | GB 1982-25111 | 19820903 |
| | JP 58057499 | A2 | 19830405 | JP 1982-157387 | 19820909 |
| PRAI | US 1981-301095 | | 19810910 | | |

AB A multicomponent compn. for **lubricants**, esp. **lubricating oils**, consists of 0.41-40 wt.% fatty (C8-28) tartrates esters and 1.0-7.14 wt.% detergent-dispersants (e.g., polyalkenylsuccinic anhydride-polyamine reaction products or polyisobutenylphenol-formaldehyde-polyethyleneimine Mannich bases). Other prepns. for the detergent-dispersant **additives** include polyamine condensations products with acids prepd. from polychloropolybutene-Me **methacrylate**, hydrolyzed polychloropolybutene-KCN, and Na malonic ester-brominated wax reaction products. The tartrates have a no. of functions (e.g., antifriction, antirust, or antioxidant).

ST fatty tartrate **lubricating oil** multifunctional; detergent dispersant **lubricating oil**; polyamine alkenylsuccinic detergent dispersant **lubricant**; Mannich phenolic resin **lubricant** dispersant; antirust antioxidant tartrate **lubricating oil**; antifriction tartrate **lubricating oil**

IT Phenolic resins, compounds
RL: USES (Uses)
(reaction products with polyethyleneimine, sulfurized, **lubricating oil** detergents-dispersants)

IT Mannich bases
RL: USES (Uses)
(sulfurized, **lubricating oil** detergent-dispersants)

IT **Lubricating oil additives**
(detergent-dispersants, Mannich bases or polyalkenylsuccinic-polyamine reaction products)

IT Rubber, synthetic
RL: USES (Uses)
(ethylene-hexadiene-propene, reaction products with maleic anhydride, condensation products with polyethyleneimine, **lubricating oil** detergents-dispersants)

IT **Lubricating oil additives**
(multifunctional, fatty alkyl tartrates)

IT **50-70-4D**, reaction products with polyisobutenylsuccinic anhydride

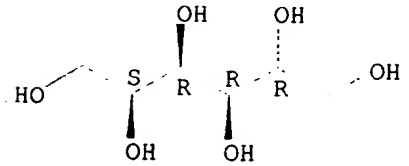
67-56-1D, reaction products with polyisobutenylsuccinic anhydride 69-65-8D, condensation products with polybutene-chloroacetyl chloride acetyl chloride reaction products 79-04-9D, reaction products with polybutene and mannitol **79-10-7D**, reaction products with chloropolybutene, condensation product with polyamines 80-62-6D, reaction products with chloropolybutene, condensation product with polyamines 103-76-4D, reaction products with polyisobutenylsuccinic anhydride and sodium carbonate 107-15-3D, reaction products with acids or phenolic resins 108-30-5D, polyisobutenyl derivs., reaction products with polyamine or alcs. 108-95-2D, polyisobutenyl derivs., reaction products with formaldehyde and polyethyleneimine, sulfurized 111-40-0D, reaction products with polyisobutenylsuccinic anhydride 112-24-3D, condensation products with chloropolybutene-Me **methacrylate** reaction products 115-77-5D, reaction products with polyisobutenylsuccinic anhydride 126-30-7D, reaction products with polyisobutenylsuccinic anhydride 141-95-7D, ester, reaction products with brominated wax and polyethyleneimine 143-28-2D, reaction products with polyisobutenylsuccinic anhydride 497-19-8D, reaction products with polybutenylsuccinic anhydride and hydroxyethylpiperazine 1304-28-5D, reaction products with polyisobutenylsuccinic anhydride and polyethyleneimine 1309-48-4D, reaction products with polyisobutenylsuccinic anhydride and polyethyleneimine 1314-13-2D, reaction products with polyisobutenylsuccinic anhydride and polyethyleneimine 4067-16-7D, reaction products with acids 4461-39-6D, reaction products with polyisobutenylsuccinic anhydride 7704-34-9D, reaction products with polyisobutenylphenol-formaldehyde-polyethyleneimine Mannich bases 9002-98-6D, reaction products with acids, 9003-29-6D, carboxy derivs., condensation products with polyamines 9046-49-5D, reaction products with maleic anhydride and polyethyleneimine 10361-37-2D, reaction products with polyisobutenylsuccinic anhydride and polyethyleneimine 25322-68-3D, reaction products with polyisobutenylsuccinic anhydride 44816-77-5D, reaction products with polyisobutenylsuccinic anhydride 63943-90-8D, reaction products with polyethyleneimine
RL: USES (Uses)
(**lubricating oil** detergents-dispersants)

IT 87-69-4D, fatty esters 108-31-6D, reaction products with ethylene-hexadiene-propene copolymer and polyethyleneimine
RL: USES (Uses)
(multifunctional **lubricating oil additives**
)

IT **50-70-4D**, reaction products with polyisobutenylsuccinic anhydride **79-10-7D**, reaction products with chloropolybutene, condensation product with polyamines
RL: USES (Uses)
(**lubricating oil** detergents-dispersants)

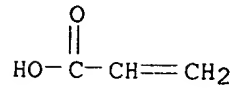
RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




RN 79-10-7 HCAPLUS

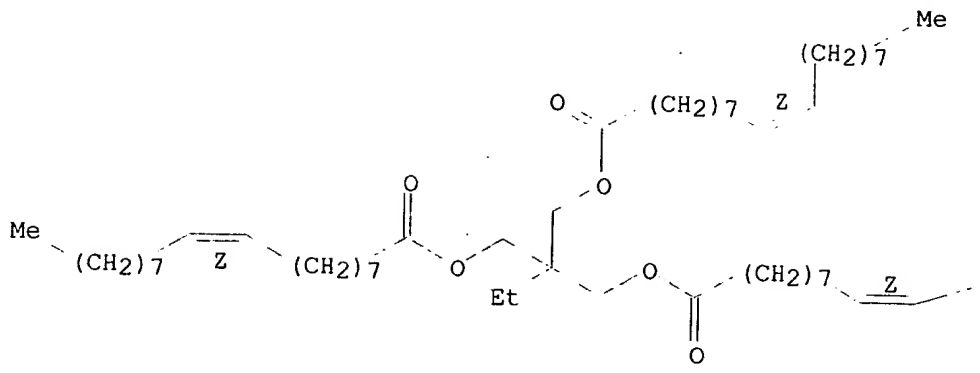
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



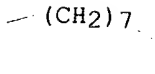
L53 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:518437 HCAPLUS
DN 93:118437
TI Study on the effects of **lubricants** with some **additives** in hot rolling of steel plate. 2
AU Motomura, M.; Sato, K.
CS Cast. Res. Lab., Waseda Univ., Tokyo, Japan
SO Chuken Hokoku (Waseda Daigaku Imono Kenkyusho) (1979), 33, 7-19
CODEN: CHHODH
DT Journal
LA Japanese
CC 55-11 (Ferrous Metals and Alloys)
Section cross-reference(s): **51**
AB An available new **lubricant** and some **additives** are described in hot rolling of steel for improved surface quality. The oxide film of the steel surface must be thin and the surface flat after hot rolling. Many **lubricants** and **additives** such as phosphite esters and fatty acid esters were used for hot-rolling tests. The best **additives** for the base oil in hot-rolling of steel were hindered esters, fatty acid esters, Binisizer 105 [84-77-5], and phosphite ester LB 400 [74565-36-9].
ST **lubricant** hot rolling steel; **lubricating** oil **additive** rolling
IT Fatty acids, esters
RL: USES (Uses)
(esters, lubricating oils contg., for hot-rolling of steel)
IT **Lubricating** oil **additives**
Lubricating oils
(for hot-rolling of steel plates)
IT Glycerides, uses and miscellaneous
(C18 mono, lubricating oils contg., for hot-rolling of steel)
IT Glycerides, compounds
(C18-unsatd. mono, ethoxylated, lubricating oils contg., for hot rolling of steel plate)
IT 78-32-0 84-77-5 112-80-1, uses and miscellaneous 7778-77-0D, dialkyl ester 10332-32-8 15834-33-0D, O,O'-dialkyl ester, zinc salt 54173-85-2D, phosphate, alkyl esters **57675-44-2** 59400-09-8 74484-73-4 74565-27-8 74565-31-4 74565-36-9 74566-07-7
RL: USES (Uses)
(lubricating oils contg., for hot-rolling of steel)
IT **57675-44-2**
RL: USES (Uses)
(lubricating oils contg., for hot-rolling of steel)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:498285 HCAPLUS
DN 93:98285
TI Polymeric compositions, and **lubricants** containing them
IN Coleman, Lester E.
PA Lubrizol Corp., USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC C10M001-32
NCL 252051500A
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 35, 37
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4194985 | A | 19800325 | US 1974-433322 | 19740114 |
| | US 4230843 | A | 19801028 | US 1979-8737 | 19790202 |
| | US 4374034 | A | 19830215 | US 1980-140945 | 19800416 |
| PRAI | US 1974-433322 | | 19740114 | | |
| | US 1979-8736 | | 19790202 | | |

AB **Lubricating-oil additives** were manufd. by

copolymn. of (usually N-contg.) **oil**-sol. dispersants (esp. polyisobutenylsuccinic anhydride reaction products with polyakylenepolyamines) with, e.g., styrene, acrylonitrile, diacetone acrylamide, or their mixts.

ST polymer dispersant **lubricating oil**; succinimide copolymer **lubricant** dispersant; polyisobutenylsuccinimide copolymer **lubricant** dispersant

IT **Lubricating oils**
(compn. and properties of)

IT **Lubricating oil additives**
(multifunctional, copolymers of simple monomers with **oil**-sol. dispersants)

IT Amines, compounds
RL: USES (Uses)
(polyalkylenepoly-, reaction products with polyisobutenylsuccinic anhydride, copolymers with simple monomers, multifunctional **additives** for **lubricating oils**, manuf. and properties of)

IT **50-70-4DP**, reaction products with **acrylic** acid and chlorinated polyisobutene 67-56-1DP, reaction products with polyisobutenylsuccinic anhydride 69-65-8DP, reaction products with chloroacetyl chloride and polyisobutene 126-30-7DP, reaction products with polyisobutenylsuccinic anhydride 143-28-2DP, reaction products with polyisobutenylsuccinic anhydride 25322-68-3DP, reaction products with polyisobutenylsuccinic anhydride
RL: PREP (Preparation)
(dispersants for **lubricating oils**, manuf. of)

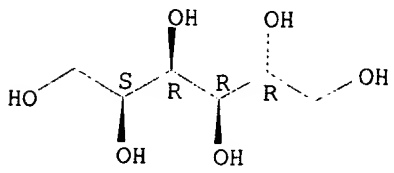
IT 105-53-3DP, C75 alkyl derivs., reaction products with polyethyelenepolyamines 107-15-3DP, reaction products with long-chain carboxylic acids 111-40-0DP, reaction products with polyisobutenylsuccinic anhydride 112-24-3DP, reaction products with chlorinated polyisobutene and Me **methacrylate** 4067-16-7DP, reaction products with long-chain carboxylic acids 4461-39-6DP, reaction products with polyisobutenylsuccinic anhydride 9003-27-4DP, carboxy-terminated, reaction products with ethylenediamine 25497-48-7DP, reaction products with polyisobutenylsuccinic anhydride 63943-90-8DP, reaction products with polyethyelenepolyamines
RL: PREP (Preparation)
(**lubricating-oil** dispersants, manuf. of)

IT 79-06-1DP, copolymers with diacetone acrylamide and esters or amides of polyisobutenylsuccinic anhydride 88-12-0DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 100-42-5DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 107-13-1DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 108-05-4DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 108-30-5DP, polyisobutenyl derivs., reactions products with polyethylenepolyamines, copolymers with simple monomers 110-17-8DP, C12-14 alkyl esters, copolymers with pentaerythritol ester of polyisobutenylsuccinic anhydride and vinylpyrrolidone 141-32-2DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 2873-97-4DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 6735-03-1DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride
RL: PREP (Preparation)
(multifunctional **additives** for **lubricating oils**, manuf. and properties of)

IT 115-77-5DP, reaction products with long-chain carboxylic acids, copolymers with simple monomers
RL: PREP (Preparation)
(multifunctional **additives** for **lubricating**

oils, manuf. of)
IT 50-70-4DP, reaction products with acrylic acid and chlorinated polyisobutene
RL: PREP (Preparation)
(dispersants for lubricating oils, manuf. of)
RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L53 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:200745 HCAPLUS
DN 92:200745
TI Hydrocarbylpoly(oxyalkylene) aminoesters
IN Lewis, R. A.
PA Chevron Research Co., USA
SO Belg., 27 pp.
CODEN: BEXXAL
DT Patent
LA French
IC C07C; C10L
CC 51-6 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | BE 877357 | A1 | 19791015 | BE 1979-196035 | 19790628 |
| | US 4198306 | A | 19800415 | US 1978-921400 | 19780703 |
| | CA 1146965 | A1 | 19830524 | CA 1979-329130 | 19790605 |
| | AU 7948323 | A1 | 19800110 | AU 1979-48323 | 19790622 |
| | AU 528034 | B2 | 19830414 | | |
| | BR 7904094 | A | 19800311 | BR 1979-4094 | 19790627 |
| | DE 2926225 | A1 | 19800117 | DE 1979-2926225 | 19790629 |
| | DE 2926225 | C2 | 19880331 | | |
| | FR 2430435 | A1 | 19800201 | FR 1979-17129 | 19790702 |
| | FR 2430435 | B1 | 19830225 | | |
| | GB 2026507 | A | 19800206 | GB 1979-22850 | 19790702 |
| | GB 2026507 | B2 | 19821215 | | |
| | JP 55027177 | A2 | 19800227 | JP 1979-83860 | 19790702 |
| | JP 61033016 | B4 | 19860731 | | |
| | NL 7905177 | A | 19800107 | NL 1979-5177 | 19790703 |
| | NL 184067 | B | 19881101 | | |
| | NL 184067 | C | 19890403 | | |
| PRAI | US 1978-921400 | | 19780703 | | |

AB Gasoline and diesel fuel detergents, used in amts. of 100-500 ppm, consist of hydrocarbylpoly(oxyalkylene) amino esters of mol. wt. 600-5000, and are also useful in lubricating oils. Thus, 500 g of a polypropylene glycol monobutyl ether [9003-13-8] (mol. wt. 1850), 350 mL xylene, 31 g CH2:CHCO2H [79-10-7], 10 g p-MeC6H4SO3H, and 1.0 g hydroquinone, heated 4 h with removal of 5 mL H2O and part of the xylene, and filtration, gave a soln. of polypropylene glycol Bu ether acrylate [51247-77-9]. This compd. 100, xylene 100, and

ethylenediamine [107-15-3] 15.7 g, heated 4 h at 120.degree. gave 88 g polypropylene glycol Bu ether N-(2-aminoethyl)2-aminopropionate [73303-27-2] contg. 0.49% basic N. Pb-free gasoline contg. 400 ppm of this **additive** gave 23 mg deposits on the intake valve compared with 150 mg with **additive**-free fuel.

ST aminoester detergent diesel fuel; gasoline detergent polyoxypropylene aminoester

IT Fuels, diesel
(detergents/for, hydrocarbylpoly(oxyalkylene) aminoesters as)

IT Gasoline additives
(detergents, hydrocarbylpoly(oxyalkylene) aminoesters)

IT 51247-77-9P
RL: PREP (Preparation)
(prepn. of and reaction with ethylenediamine)

IT 73303-27-2P
RL: PREP (Preparation)
(prepn. of, as detergents for diesel fuel and gasoline)

IT 9003-13-8
RL: RCT (Reactant)
(reaction of, with **acrylic** acid)

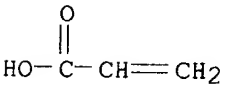
IT 107-15-3, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol Bu ether **acrylate**)

IT **79-10-7**, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol monobutyl ether)

IT **79-10-7**, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol monobutyl ether)

RN 79-10-7 HCAPLUS

CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1980:44559 HCAPLUS

DN 92:44559

TI Polyfunctional additive for **lubricants**

IN Iordache, Gheorghe; Baliu, Sotir; Iordache, Maria; Olteanu, Maria; Luca, Paula

PA Institutul de Cercetari si Proiectari Tehnologicepentru Rafinarii si Instalatii Petrochemice, Rom.

SO Rom., 3 pp.
CODEN: RUXXA3

DT Patent

LA Romanian

IC C10M001-00; C10M003-00

CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 35

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI RO 73549 | B | 19780315 | RO 1974-77617 | 19740212 |

AB The **additive** was obtained as a graft copolymer of vinyl acetate (I) with nondistd. C12-16 alkyl **methacrylates** (II) and consists

of 10-20% I, 30-40% II, 40-60% paraffin **oil** (III) and could be prepd. by initial polymn. of II for 2-4 h at 70-90.degree. in presence of BzO2 at the same temp., then the I grafting was made at moderate rate on the macromol. chain, using I inhibited with 0.05-0.3% **hydroquinone**, after which 2 portions of Bz2O2 and one of III were added for 1.5-2.5 h, the polymn. being finished with an other portion of Bz2O2 at 90-120.degree..

ST vinyl acetate **alkylmethacrylate** copolymer **lubricant**

IT Polymerization
(graft, of vinyl acetate on poly(**alkylmethacrylate**))

IT **Lubricating oil additives**
(multifunctional, vinyl acetate-**alkylmethacrylate** copolymer)

IT 79-41-4D, C12-16 alkyl esters, polymers with vinyl acetate
RL: USES (Uses)
(graft, multifunctional **lubricating oil additive**)

IT 108-05-4D, polymer with C12-16 **alkylmethacrylates**
RL: USES (Uses)
(graft, multifunctional **lubricating oil additives**)

L53 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:25360 HCAPLUS
DN 92:25360
TI **Oil additives** based on **methacrylate** esters
IN Marculescu, Niculae; Alboteanu, George; Baliu, Sotir; Iordache, Gheorghe; Lazar, Georgeta; Oeneanu, Ion; Petre, Constantin; Scheianu, Ion; Zamfir, Marian
PA Centrala Industriala de Prelucrare a Titeiului, Ploiesti, Rom.
SO Rom., 2 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
IC C08F003-66; C07C069-54
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | RO 62538 | B | 19770520 | RO 1972-72099 | 19720901 |

AB A viscosity-index improver for **lubricating oils** was prepd. from Me **methacrylate** [80-62-6] and C10-11 alcs. by transesterification in the presence of .apprx.0.2% **hydroquinone** and 1.5% H2SO4, sepn. by distn. of the MeOH evolved, purifn. of the higher ester by vacuum distn., and polym.

ST **methacrylate** viscosity index improver; **lubricant** additive **methacrylate** polymer; transesterification **methacrylate** ester

IT Transesterification
(of Me **methacrylate** with higher alcs.)

IT **Lubricating oil additives**
(viscosity-index improvers, poly(alkyl **methacrylates**), manuf. of, from Me **methacrylate**)

IT 79-41-4DP, C10-11-alkyl esters
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. and polymn. of)

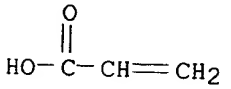
IT 80-62-6
RL: RCT (Reactant)
(transesterification of)

L53 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1978:532254 HCAPLUS
DN 89:132254
TI **Methacrylic** polymer-based **additive** for **lubricating oils**
IN Iordache, Gheorghe; Balliu, Sotir; Alboteanu, Gheorghe; Iordache, Maria; Olteanu, Maria; Luca, Paula
PA Institutul de Cercetari si Proiectari Tehnologice pentru Rafinarii si Instalatii Petrochimice, Rom.
SO Rom., 3 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
IC C10M001-00
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 37
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI RO 60229 | B | 19760615 | RO 1974-77618 | 19740212 |

AB **Polymethacrylate** viscosity-index improvers and pour-point depressants for **lubricating oils** are prepd. by polymn. of a **methacrylate** ester at 70-120.degree. in the presence of Bz2O2 or azobisisobutyronitrile and by dissolving the polymer in a paraffinic **oil**. The **methacrylate** esters are prepd. by esterification of **methacrylic** acid [79-41-4] or transesterification of Me **methacrylate** [80-62-6] with C4-20 alcs. in the presence of H2SO4 as catalyst, **hydroquinone** as polymn. inhibitor, and a heavy mineral **oil** or a furfural ext. from the refining of mineral **oils** (contg. 0.1-0.3% S), which also functions as a polymn. inhibitor.
ST **polymethacrylate lubricating oil additive**; viscosity index improver **polymethacrylate**; pour point depressant **polymethacrylate**; **methacrylic** acid esterification; methyl **methacrylate** transesterification
IT Alcohols, reactions
RL: RCT (Reactant)
(C10-11, esterification by, of **methacrylic** acid)
IT **Lubricating oil additives**
(pour-point depressants, **acrylic** acid ester polymers, manuf. of)
IT **Lubricating oil additives**
(viscosity-index improvers, **acrylic** acid ester polymers, manuf. of)
IT 79-41-4, reactions
RL: RCT (Reactant)
(esterification of, by C10-11 alcs.)
IT **79-10-7DP**, esters with C10-11 alcs., polymers 25719-51-1P 25719-52-2P 25986-80-5P
RL: PREP (Preparation)
(**lubricating oil additives**, manuf. of)
IT 104-76-7 112-53-8 36653-82-4
RL: RCT (Reactant)
(transesterification by, of Me **methacrylate**)
IT 80-62-6
RL: RCT (Reactant)
(transesterification of)
IT **79-10-7DP**, esters with C10-11 alcs., polymers
RL: PREP (Preparation)
(**lubricating oil additives**, manuf. of)

RN 79-10-7 HCAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1977:538509 HCAPLUS
DN 87:138509
TI Carboxylate ester **additives** for fuels and **lubricating oils**
IN Miller, Clark Ober
PA Lubrizol Corp., USA
SO U.S., 17 pp. Cont.-in-part of U.S. 3,957,854.
CODEN: USXXAM
DT Patent
LA English
IC C07C103-14
NCL 260404500
CC 51-9 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 5

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4031118 | A | 19770621 | US 1975-644677 | 19751229 |
| | BE 750135 | A | 19701109 | BE 1970-750135 | 19700508 |
| | GB 1306529 | A | 19730214 | GB 1970-22584 | 19700511 |
| | CA 956397 | A1 | 19741015 | CA 1970-82375 | 19700511 |
| | JP 50033483 | B4 | 19751031 | JP 1970-40015 | 19700511 |
| | NL 7006814 | A | 19701116 | NL 1970-6814 | 19700512 |
| | NL 164878 | B | 19800915 | | |
| | NL 164878 | C | 19810216 | | |
| | US 3836470 | A | 19740917 | US 1973-368383 | 19730608 |
| | US 3836469 | A | 19740917 | US 1973-368545 | 19730608 |
| | US 3838052 | A | 19740924 | US 1973-368382 | 19730608 |
| | US 3838050 | A | 19740924 | US 1973-368782 | 19730611 |
| | US 3836471 | A | 19740917 | US 1973-369384 | 19730612 |
| | US 3879308 | A | 19750422 | US 1973-369370 | 19730612 |
| | US 3957854 | A | 19760518 | US 1973-398034 | 19730917 |
| | JP 55021402 | A2 | 19800215 | JP 1976-121164 | 19761008 |
| PRAI | US 1969-823990 | A2 | 19690512 | | |
| | US 1970-12838 | A3 | 19700219 | | |
| | US 1971-152425 | A2 | 19710611 | | |
| | US 1973-398034 | A2 | 19730917 | | |
| | US 1971-152424 | A1 | 19710611 | | |
| | US 1971-152426 | A1 | 19710611 | | |
| | US 1973-359952 | A2 | 19730514 | | |
| | US 1973-360207 | A2 | 19730514 | | |

AB High-mol. wt. carboxylate esters, which are used as rust inhibitors, dispersants, and detergents for gasolines, diesel fuels, kerosines, and **lubricating oils**, were prepd. by the esterification of a C.gtoreq.50 carboxylic acid with a polyoxyalkylene polyol and .gtoreq.1 of polyhydric alcs., amines, and alk. earth metal compds. Thus, an **additive** for diesel fuel was prepd. by esterification of a high-mol.-wt. carboxylic acid, obtained by heating chlorinated polyisobutylene (av. mol. wt. 2300 and Cl content 4.7%) with **methacrylic** acid, with propoxylated ethoxylated glycerol (av. mol.

wt. 4800) followed by neutralization with Ba(OH)2.

ST diesel fuel dispersant detergent; corrosion inhibitor **lubricating oil**; gasoline dispersant corrosion inhibitor; kerosine detergent corrosion inhibitor; ester **additive** fuel **lubricant**

IT Kerosine
RL: USES (Uses)
(corrosion inhibitors for, carboxylate esters as)

IT Fuels, diesel
(detergents-dispersants for, carboxylate esters as)

IT Amines, compounds
RL: USES (Uses)
(reaction products with polyisobutyl derivs. of succinic anhydride and polyols, corrosion inhibitors for hydrocarbon fuels)

IT Gasoline additives
**Lubricating oil additives**
(corrosion inhibitors, carboxylate esters as)

IT **Lubricating oil additives**
(detergents, carboxylate esters as)

IT Fuels
(hydrocarbon, corrosion inhibitors for, carboxylate esters as)

IT **50-70-4D**, reaction products with succinic anhydride polyisobutenyl derivs. and polyamines 69-65-8D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 108-30-5D, polyisobutenyl derivs., reaction products with polyamines and polyols, alk. earth metal salts 112-57-2D, reaction products with polyols and polyisobutenyl derivs. of succinic anhydride 115-77-5D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 140-31-8D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 6940-58-5D, polyhexenyl derivs., esters with propylene glycol, triethanolamine, and polyethylene-polypropylene glycol mono(dinonylphenyl) ether 64296-01-1D, polyisobutenyl derivs., reaction products with polyamines and polyols, alk. earth metal salts 64296-02-2D, polyisobutenyl derivs., alk. earth metal salts 64296-03-3D, polyisobutenyl derivs.
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuel)

IT 57-55-6D, esters with high-mol. wt. acids 102-71-6D, reaction products with high-mol. wt. acids 25322-68-3D, esters with high-mol. wt. acids
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuels)

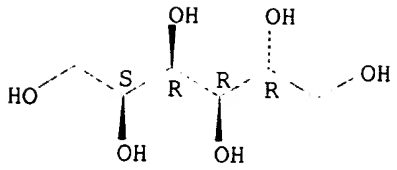
IT 75-21-8D, reactioin products with N,N,N',N'-tetrakis(.beta.-hydroxypropyl)ethylenediamine aad propylene oxide 75-56-9D, reaction products with N,N,N',N'-tetraki(.beta.-hydroxypropyl)ethylenediamine and ethylene oxide 102-60-3D, polyoxyalkylated
RL: USES (Uses)
(demulsifier for hydrocarbon fuels)

IT 25067-06-5
RL: RCT (Reactant)
(reaction of, with pentenetricarboxylic acid)

IT **50-70-4D**, reaction products with succinic anhydride polyisobutenyl derivs. and polyamines
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuel)

RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L53 ANSWER 56 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1975:88292 HCAPLUS
DN 82:88292
TI Lubricity additives. New class based on polymers and esters
AU Misra, A. K.; Mehrotra, A. K.; Srivastava, R. D.; Nandy, A. N.
CS Def. Res. Lab., Kanpur, India
SO Proc. World Conf. Ind. Tribol., 1st (1973), Meeting Date 1972, B2, 6 pp.. Editor(s): Malhotra, R. C. Publisher: Indian Soc. Ind. Tribol., New Delhi, India.
CODEN: 29CKAX
DT Conference
LA English
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 36, 37
AB In a ball-**wear** test machine, 25 vinyl ester and **acrylic** polymers or copolymers and 8 simple or complex long chain esters of glycerol, **sorbitol**, neopentyl glycol, diethylene glycol, diethylene and polyethylene glycol were evaluated at 0.05-1.0% concn. in light mineral **oil**, aviation turbine fuel, and winter and sub-zero diesel fuels. Several of the compds. were effective as **antiwear additives.**
ST **lubricating oil antiwear** polyester; **wear** inhibiting **lubricant additive**; jet fuel **lubricating additive**; diesel fuel **lubricating additive**
IT **Lubricating oil additives**
(**acrylic** polymer, vinyl ester, and polyester-based)
IT Esters, uses and miscellaneous
Polymers, uses and miscellaneous
RL: USES (Uses)
(fuel and **lubricating oil additives**)
IT Fuels, rocket
(jet, **acrylic** polymer, vinyl ester and polyester-based **lubricant** additives for)
IT Fuels, diesel
(**lubricants** additives for, **acrylic** polymer, vinyl ester and polyester-based)
IT 2-Butenedioic acid (E)-, didodecyl ester, polymer with dodecyl 2-methyl-2-propenoate and 2-methyl-2-propenoic acid, esters
2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with (E)-didodecyl 2-butenedioate and 2-methyl-2-propenoic acid, esters
2-Propenoic acid, 2-methyl-, polymer with (E)-didodecyl 2-butenedioate and dodecyl 2-methyl-2-propenoate, esters
RL: USES (Uses)
(fuel and **lubricating oil additives**)
IT 123-95-5 1323-39-3 1338-43-8 2402-58-6 7003-73-8 16635-51-1 25496-72-4 52383-46-7 52383-76-3 52383-77-4 52438-03-6 52467-26-2 54578-66-4 54578-67-5 54578-68-6 54578-69-7
RL: USES (Uses)
(fuel and **lubricating oil additives**)

IT 25719-52-2 27456-04-8 52383-42-3 52383-52-5 52383-53-6
52383-72-9 54518-61-5 54518-63-7 54518-64-8 54578-76-6
RL: USES (Uses)
(fuel and **lubricating oils additives**)
IT 52383-79-6P
RL: PREP (Preparation)
(prepn. of)